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Cheshire County Council

Health Services 1968

Cover:
STALYBRIDGE CLINIC CENTRE AND DIVISIONAL OFFICE

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Cheshire County Council

Annual Report for 1968 by the County Medical Officer and Principal School Medical Officer

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MA MB B.CHIR DPH Barrister at Law

Cheshire County Council

Annual Report for 1958 by the County Medical Officer and Principal School Medical Officer

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Stalybridge and Dukinfield
T. Hulme, M.B., Ch.B., D.P.H.

INTRODUCTION

To the Chairman and Members
of the County Health Committee

Mr. Chairman, Ladies and Gentlemen,

I present herewith my annual report on the health of the administrative county of Cheshire for the year 1968. As forecast, the report will deal entirely with events taking place during the calendar year.

Mr. A. F. Hely (Principal Dental Officer) and Miss I. N. Vaughan (Superintendent of District Nursing) who retired during the year will be remembered for their devoted service to this authority. Mr. T. B. Dowell (Principal Dental Officer), Miss P. Wright-Warren (Principal Nursing Officer) and Mr. R. W. Rossington (Health Education Officer) all joined the staff during the year.

In April, the survey of the management structure of the department was completed and implemented on the lines forecast in the last report. The nursing services were reorganised with a newly appointed Principal Nursing Officer under whose direction work five Area Nursing Officers, each of whom covers three health divisions.

The mid 1968 population was 1,056,370. The live birth rate (17·2%) has shown a steady decline since 1964. The illegitimate birth rate (6% of the total live births) is the highest recorded. The infantile mortality was 18·6% which, though in line with the steady fall since the war, is nevertheless up on last year (16·3%). This is certainly disappointing, and as a result the department is entering on a detailed study of all infant deaths with a view to ascertaining those which were preventable. Such an investigation has been carried out for a number of years in the case of maternal deaths. The death rate was 11·4%, the principal causes again being ischaemic heart disease, cardio-vascular accidents, and malignant disease, particularly cancer of the lung. The increase in deaths from lung cancer and ischaemic heart disease (especially in males) is a salutary reminder of the evils of smoking, which is undoubtedly a serious contributing factor. Until there is some falling off in this habit, these serious trends are likely to continue. Deaths from diabetes have increased greatly this year.

No case of poliomyelitis, diphtheria or smallpox was notified during the year. Measles notification remains at a comparatively satisfactory level, and notifications of new cases of tuberculosis, both pulmonary and non-pulmonary, are the lowest recorded.

Developments in the Infant Welfare Service (now renamed the Child Health Service) followed broadly the recommendations contained in the Sheldon Report. A move is being made toward seeing children at specified ages for a developmental examination, and training of medical officers in this specialised field is being developed in conjunction with the Universities of Manchester and Liverpool. An effort is being made to increase the number of pre-school children seen by Dental Officers and these have risen by 8%. There has been an increase in the number of congenital malformations notified, but it is not yet known whether this represents a real increase or is the result of better reporting procedures.

The main developments in the nursing service have been the changes in the management structure mentioned above, the partial replacement of state registered nurses with state enrolled nurses to deal with the less skilled task of chronic nursing, and the making of plans to attach nursing staff to general practitioners. It is hoped that this will be described more fully in the next annual report.

During the year a Health Education Officer was appointed. Preventive medicine has achieved much in the fields of environmental health, vaccination and immunisation, and early diagnosis through screening procedures. However, the problems which now confront us are largely the result of personal habits such as heavy smoking, over-eating and lack of exercise (resulting in cancer of the lung and degenerative disease of the heart and circulatory system). The only impact in this field is likely to be made by health education, aimed at removing undesirable habits, and therefore we are likely to witness more emphasis on health education in the years to come.

Residential courses for ambulance men have continued to be held at Wrenbury Hall. In addition, at the specific request of the Ministry of Health a number of Instructors Courses have been held there. There is little doubt that the demand for this type of training will grow. During the year, a new Ambulance Station was opened at Dukinfield, replacing the smaller stations at Hyde and Stalybridge.

The section dealing with services for mothers and young children has been greatly pressed by the rapid increase in registration under the Nurseries and Child Minders Regulation Act. Premises registered under the Act have increased from 59 in 1963 to 240 in 1968, the number of places rising during the same period from 860 to 4,829.

In the section dealing with the physically handicapped, the notable activity this year has been two surveys, one of all the handicapped leaving school over a five-year period, and the other of all known handicapped persons in the Borough of Macclesfield. These surveys are producing valuable information which will help in calculating staffing needs in the future as well as in raising the general standard of services provided.

Recording and planning clinic time for vaccination and immunisation by computer has progressed satisfactorily, and at the end of the year 9 out of the 15 divisions and 149 general practitioners were using this service. Other uses for the computer by the health department are being planned, notably in child health and for cervical cytology.

With regard to new buildings, the main effort of the department has continued to be directed toward the establishment of Health Centres. A total of 31 centres are at various stages of planning, and it is understood that this is one of the largest programmes of any authority in England. The year 1967 and the first part of 1968 were largely taken up with preliminary consultation with groups of practitioners, and with settling matters of principle with the Executive Council and the Department of Health and Social Security. Now that this basic work has been completed I hope to report next year that a number of centres have come into use.

The services provided under the National Health Service (Family Planning) Act have been extended during the year to bring sponsorship by the County Council to cases of social as well as medical need. Considerable publicity has been given to this service, but the response from those who need it the most has been somewhat disappointing.

A wholly new development, which began late in 1968, was the Occupational Health Service for County Council Staff (now almost 30,000 in number), designed to study, prevent, or alleviate those causes of physical or mental ill-health liable to affect or be induced by an employee's particular occupation. The essence of the service is to provide a means of help within the worksetting. It will in the first place be developed as a pilot scheme at the Chester Divisional Health Office.

Reference is made by the County Public Health Officer to the serious outbreak of food poisoning which occurred in Liverpool at the end of June 1968. Forty-four cases

of severe illness were shown to be caused by the consumption of chickens infected with Salmonella Virchow. The chickens emanated from a packing station in Cheshire and the infection was shown to be present in the live birds. This outbreak highlighted some of the unsatisfactory features at the present time in the very large broiler industry and it is not yet clear how the possibilities of infection can be overcome. What is clear however is that the general public as well as catering establishments should exercise great care in the handling of broilers, and particularly in seeing that the birds are properly thawed out and then very thoroughly cooked.

I should like to thank the County Health Committee and particularly the Chairman and Deputy Chairman for their constant support. My thanks are also due to the staff of the department, especially to Dr. Snaith and Mr. Page, for their contribution to the work of the department during a year of change, and to Mr. B. O'Connor, who has been responsible for the compiling of this report. My grateful thanks are also due to the Clerk of the County Council, the County Treasurer and the other departmental heads for their continued co-operation and help.

B. G. GRETTON-WATSON,

County Medical Officer.

June, 1969.

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GENERAL AND VITAL STATISTICS

GENERAL AND
VITAL STATISTICS

GENERAL AND VITAL STATISTICS

Area

The area of the administrative county at the end of 1968 was 622,042 acres.

Population

The population of the administrative county estimated by the Registrar General for mid-1968 was 1,056,370.

Rateable Value

The rateable value of the administrative county for general county rate purposes at 1-4-68 was £44,260,901. A penny rate for 1968-69 represented the sum of £183,824 (estimated).

Live Births

	Male	Female	Total
Legitimate	8836	8266	17102
Illegitimate	565	523	1088
	9401	8789	18190

Birth rate per 1,000 population, 17·2 (16·9)

Illegitimate Live Births were 5·98 per cent. of total live births. (8·5)

Stillbirths

	Male	Female	Total
Legitimate	120	116	236
Illegitimate	14	6	20
	134	122	256

Stillbirths rate per 1,000 total (live and still) births, 14.

Deaths

Male	Female	Total
5992	6042	12034

Death rate per 1,000 population, 11·4.

The principal causes of death continued to be heart disease, malignant diseases, and vascular lesions of the nervous system.

Infantile Mortality

Number of deaths of infants:—

	Under 1 year	Under 4 weeks	Under 1 week
Legitimate	317	231	193
Illegitimate	21	13	11
Total	338	244	204

Death rate of infants under one year, per 1,000 live births, 18·6.

Legitimate	18·54	13·51	11·29
Illegitimate	19·30	11·95	10·11
All Infants	18·58	13·4	11·2

(18·3) (12·4) (11·0)

Perinatal Deaths

Stillbirths	256
Deaths under 1 week	204
Total perinatal deaths	460

The perinatal mortality rate per 1,000 total (live and still) births was 25.

Deaths from Puerperal Causes

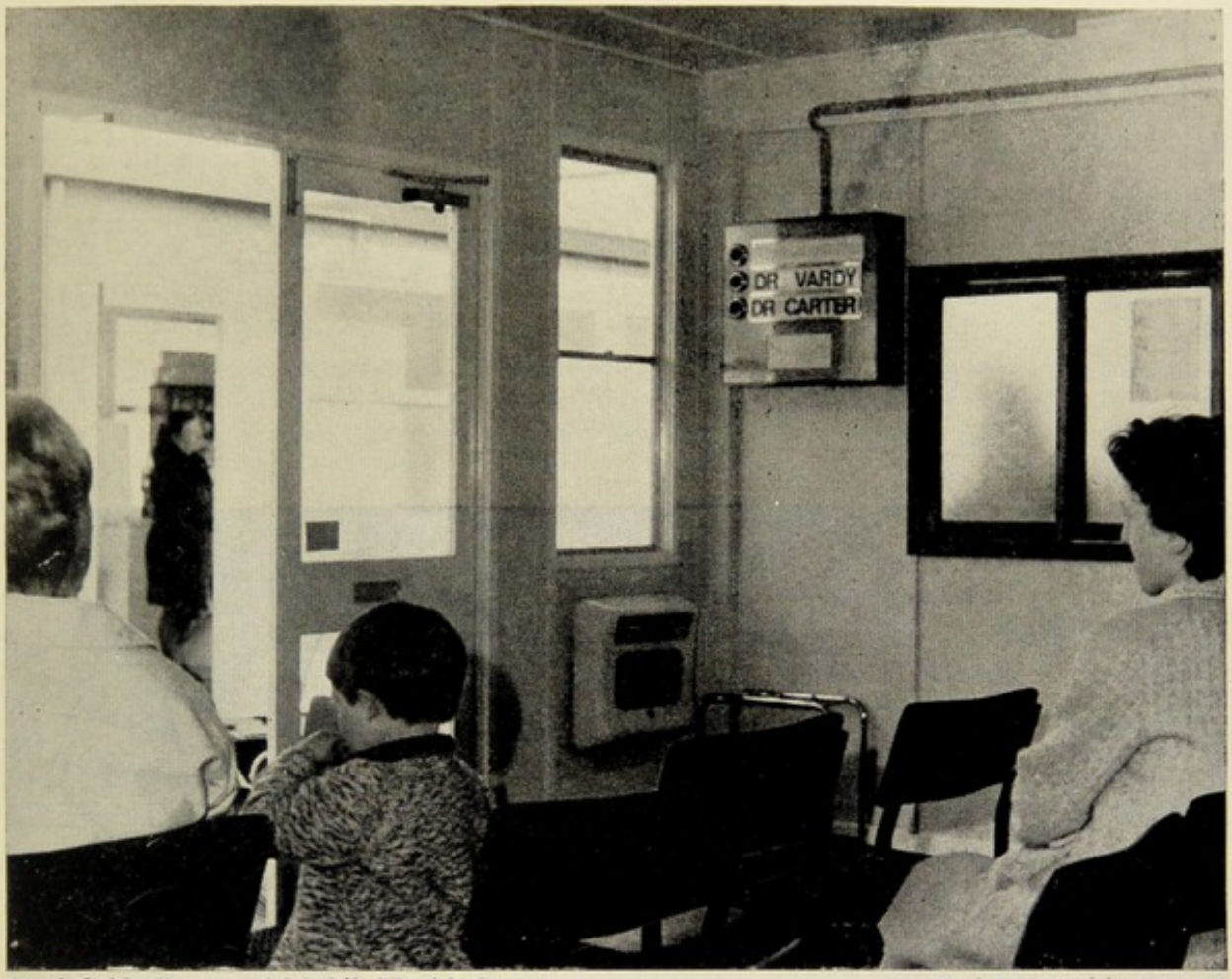
	Deaths	Rate per 1,000 total (live and still) births
Pregnancy, childbirth, abortion	2	0·108

Building Programme

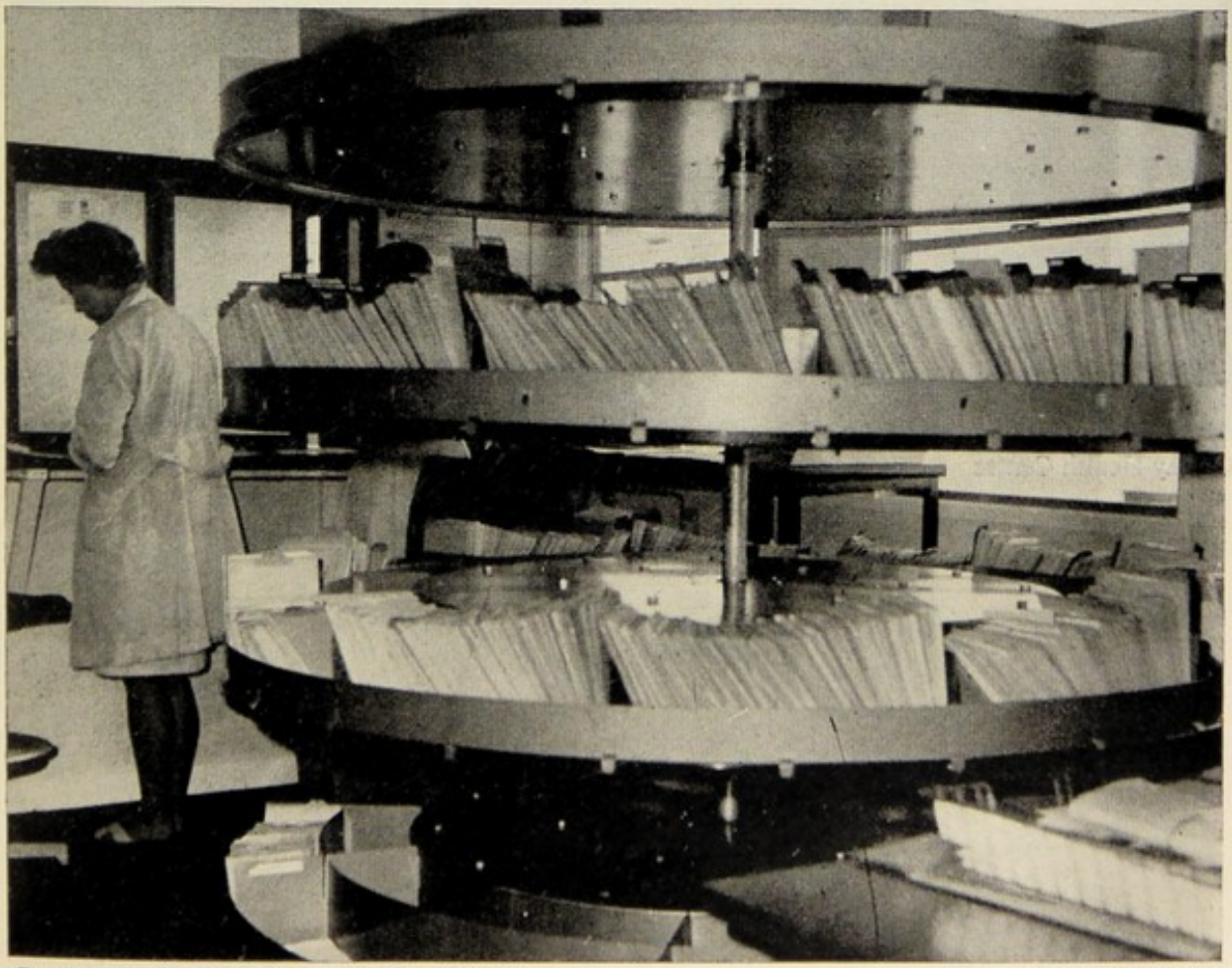
Health Centres—The Clinic Centre and General Practitioner Unit which the County Council provided at Hattersley in 1966 have now been merged as a Health Centre. Apart from this special case (also arrangements in several areas for practitioners' use of the clinic centres), plans have been made for approximately 32 Health Centres, spaced over the four years 1968/9 to 1971/72. There is also a mobile Health Centre, to be opened in the first place at Castlefields, Runcorn (New Town). Those Health Centres for which a 'scheme' has been submitted and a 'cost limit' granted, are included below.

Cost limit has been granted by the Department of Health and Social Security for the following projects:—

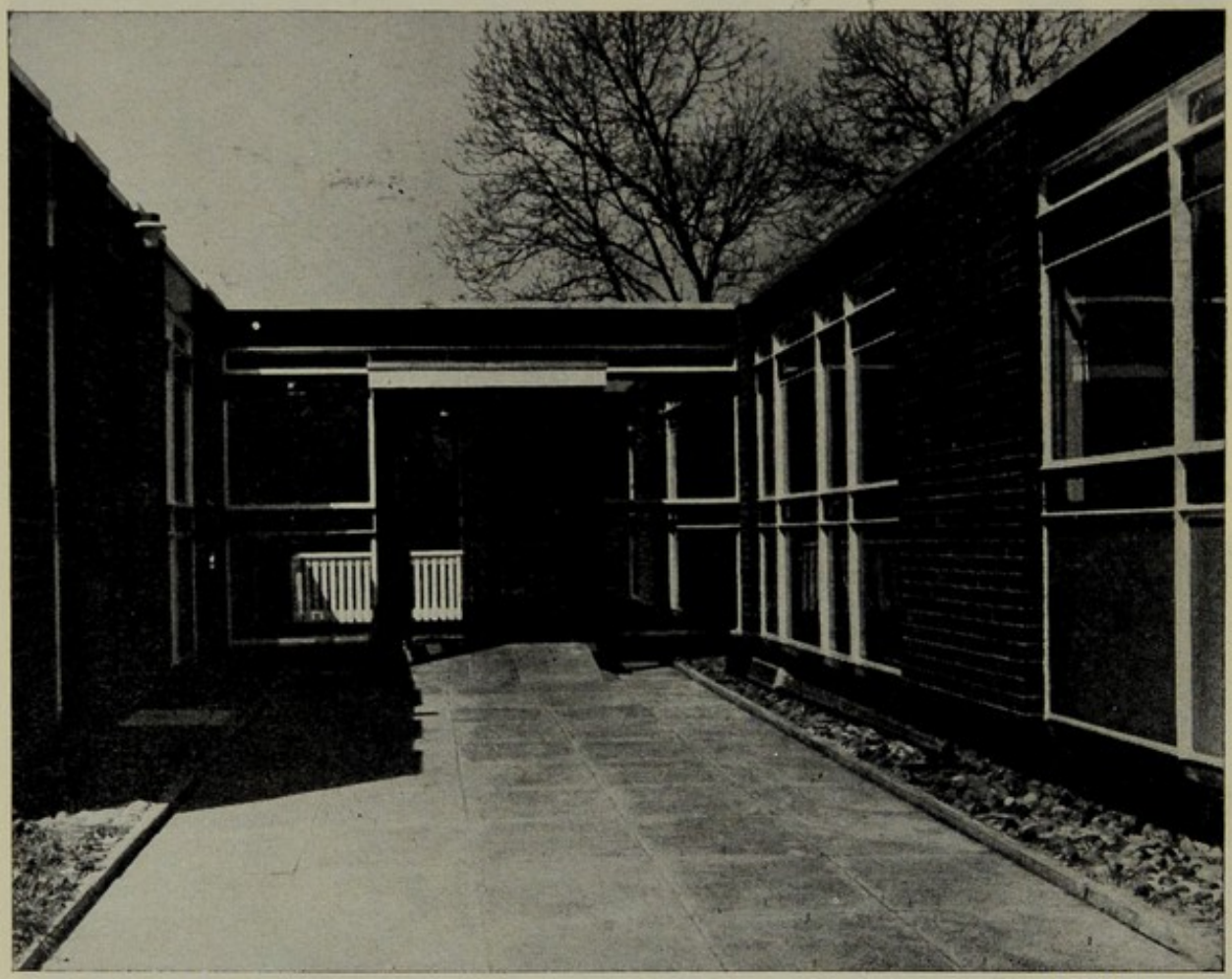
	1968-69	1969-70
Health Centres	Runcorn Castlefields Bebington (with Divisional Office and Physically Handicapped Unit) Gatley Partington Wharton Gt. Sutton Heald Green	
Hoylake Mother & Baby Home	Adaptations	
Mentally Subnormal Hostels	Neston Junior	Ellesmere Port Adult Stalybridge Adult Northwich Adult Sale Manor Avenue Adult Heswall Adult
Mentally Subnormal Training Centres	Neston Junior Altrincham Junior Ellesmere Port Adult—extension	Macclesfield Eastham Crewe Northwich Junior Extensions
Ambulance Stations		Congleton Wilmslow



Castlefields (Runcorn) Mobile Health Centre — Patients' Waiting Room



Castlefields (Runcorn) Mobile Health Centre — Rotary Records System



Gatley Health Centre

Joint Entrance

CHILD HEALTH AND NURSING SERVICES

CHILD HEALTH AND NURSING SERVICES

(from Dr. I. Craighead)

Child Health Centres

The Sheldon Report gave initial backing to the formation of the clinics of the future which will provide in the community a preventive clinical medical service. Good progress was made during the year towards the Sheldon concept of the Child Health Centre, and our policy is summarised by this recommendation:

> 'We are in no doubt about the continuing need for a preventive service to guard the health of children. We consider it would be more appropriate to describe it as a child health service than a child welfare service. It is our view that in the long term it will be part of the family health service provided by family doctors working in groups from purpose-built family health centres. It is within this concept that our recommendations are made.'

The service for the pre-school child is being organised on two levels. At the first level developmental screening examinations are carried out by specially trained doctors at regular intervals. At the second level of the service mothers are encouraged to attend the child health clinics to discuss their problems with the health visitor. They are not encouraged to see the doctor as a routine, but of course he is available if required.

It is intended that in the future the computer will be employed to issue appointments at the appropriate intervals. Certain items of information obtained at the examination will be recorded in the computer so that there will be a basic record for each child and a data bank of essential information on the child population of the county.

In November 1968 the first course was held, in association with the University of Manchester, dealing with the neurological examination of the infant. Fifteen child health centre doctors attended the course, which proved to be a great success. The department is most grateful for the assistance given by Professor John Davis and his colleagues and to Dr. Dorothy Egan, Guy's Hospital, London, who demonstrated developmental screening examinations during the first year of life. The contents of the course were not intended to give a comprehensive training in paediatrics or neurology, but to give doctors training in the observation and examination of the very young child and to stimulate their interest in paediatrics. The syllabus will be the pattern for future courses, but because of the high calibre of lecturers, who are greatly in demand, it is not possible to hold frequent courses. It is hoped that all child health doctors will be trained within two years and that by that time developmental screening, by appointment, will be carried out at all child health clinics.

Welfare Foods

The Sheldon Report stated that 'the clinics of the future must carry a high reputation for the quality of their work. It is dificult to see how the sale of infant foods does anything to enhance this reputation'.

The County Health Committee has considered the question of the sale of proprietary welfare foods, and decided that the sale be discontinued except in remote rural areas where alternative supplies are not easily available. As foods were sold in many centres by members of voluntary organisations it was agreed that a period of one year be allowed in which to run down stocks. National welfare foods, however, continue to be sold at most centres.

Nursing Staff

Structure

Early in the year the County Council approved a new establishment of senior nursing staff. The previous establishment had been a Superintendent Health Visitor,

a Supervisor of Home Nurses, a Non-Medical Supervisor of Midwives, four Assistant Supervisors and a Nurse Tutor. The revised establishment provides for one Principal Nursing Officer, two Deputy Principal Nursing Officers, one Nurse Tutor and five Area Nursing Officers. The Principal Nursing Officer is responsible to the Principal Medical Officer for the formulation of nursing policy, including training policy, and for the administration and co-ordination of the authority's domiciliary nursing services. The Deputy Principal Nursing Officers and the Nurse Tutor are responsible to the Principal Nursing Officer. In practice one of the Deputy Principal Nursing Officers is a specialist in the midwifery service and the other is a specialist in the health visiting service, whilst the Nurse Tutor is a specialist in district nursing. They are accepted as advisers on their specialities both to the Principal Nursing Officer and the Area Nursing Officers. They take an active part in the arrangements for training of staff. The Area Nursing Officers are responsible for the co-ordination and administration of the authority's nursing services including supervision of staff in their area. Each area is made up of three of the county divisions with approximately 100 nurses.

Attachment of Nursing Staff to General Practitioners

The policy of the department to attach nursing staff to general practitioners whenever possible was approved by the County Health Committee in September. The aim is to ensure that patients are cared for by a cohesive health team rather than by individuals giving separate unco-ordinated services. The nursing team consists of Health Visitors, Home Nurses and Domiciliary Midwives who will carry out their present duties, but their case load will be the population on a doctor's practice list instead of the inhabitants of a geographical area. Attachment of staff to general practitioners greatly facilitates the joining together of doctors in groups.

Home Nursing

A review of the home nursing service showed that many state registered nurses with district nurse training were carrying out routine duties which could be adequately carried out by lesser trained nurses. The policy formulated was to reduce the number of highly trained nurses by replacing them where possible by state enrolled nurses—up to 25 per cent. of the latter. The proportion of state enrolled nurses on the staff has increased but it is evident that with the attachment of nurses to general practice there will be a greater need to have a team of home nurses with different levels of skill.

Health Visiting

The health visiting service during 1968 suffered from a shortage of staff. The number of students sponsored for training is still below the number which the County Council would be prepared to sponsor if suitable students could be recruited. In the main the people applying for sponsorship who are academically qualified are young nurses who have had little or no experience after obtaining their state registration. The more mature student usually lacks the academic qualifications called for by the training schools. Possibly too much emphasis is placed on academic qualifications and academic subjects in training, and not enough on modern preventative practical work and other attributes such as a mature outlook on community problems.

Midwifery

The birth rate of 17·2 shows little change from last year, but the trend towards hospital confinement continues. In 1967 the percentage of hospital confinements was 80·3, whereas that for 1968 was 81·6. The percentage varies from area to area with a peak of well over 90 per cent. of hospital confinements in the Bebington area.

The lack of home confinements has caused concern among domiciliary midwives for some time, and as the trend away from home confinements continues, this con-

cern grows. Though some maternity nursing of early hospital discharges can be undertaken by part-time midwives it is still vital for all areas to be covered at all times for domiciliary births. This means that there must be staff to cover off duty, sickness, etc. If midwives are to have a reasonable number of confinements their areas must be extended geographically. Obviously there are limits to this extension.

The extent of the need for a domiciliary midwifery service, as opposed to a maternity nursing service, and the way in which it is to be provided, must be the subject of a national review in the near future.

Training

With the trend towards hospital confinements the difficulty of providing practical experience for part II midwifery pupils continues. This is reflected in the fact that the Central Midwives Board has now stated that it is prepared to consider lowering the required number of domiciliary cases. During 1968 one training school submitted a revised syllabus to the Central Midwives Board which was not approved, but the comments of the board indicate that with minor modifications they are prepared to reconsider the scheme.

Nurseries and Child Minders

Even before the implementation of the Health Services and Public Health Act, 1968, the number of applications for registration under the regulations continued to increase. The comparative figures for the number of persons and premises registered for the last five years are:—

1964	82
1965	105
1966	143
1967	193
1968	240

As it had long been the policy of the County Council to register all playgroups held for more than two hours per day the implementation of the new Act did not affect Cheshire as much as some other authorities. Nevertheless there was a great increase in the requests for information and in the number of applications for registration. In view of the recent literature and reports on the care of the pre-school child, the new regulations were welcomed as the standard of care should be raised by all possible means. A number of premises in the County are below our minimum standards and it is hoped that by encouragement and advice we can persuade the managers to bring them up to standard.

The increase in requests coupled with a more intensive investigation of applications has led to a great strain being imposed on the staff responsible for the administration of the regulations.

Nursing Homes

For a number of years there have been two private nursing homes with facilities for carrying out operations; one of these is equipped as a maternity unit. Both these homes registered under the Abortion Act, 1967, which came into force on 27th April, 1968, and 48 abortions were carried out in the first year.

Congenital Malformations

During the year there has been a significant rise in the number of congenital malformations notified by midwives. In 1967 there were 238 notifications, compared with 383 in 1968.

The Registrar General informed us that there was an increase in talipes, hydrocephalus, polydactyly, cleft palate, mongolism, other defects of genitalia, heart and great vessels, and lower limb defects.

Investigation was made into the geographical distribution of the defects, but it was found that in most cases the numbers were so small when broken down in this way that no significant pattern emerged.

The picture of cleft palate distribution differs, however, from that of the other defects, and in addition to showing a very definite increase, cases appeared to group in certain areas of the county. It is perhaps of interest to note that an entirely different grouping occurred in 1967, and that there appeared to be a shift of cases from west to east. The reasons for these increases are unknown, but it is hoped that an investigation will be carried out next year. Cheshire is not alone in the increase, and various environmental triggers may be responsible.

The method of collecting information may be partly responsible for the overall increase in malformations notified. In January 1968, in order to increase the efficiency of reporting congenital malformations, a new and simplified system was introduced, and to emphasise its importance, it was fully explained at meetings of midwives and of maternity matrons, doctors and sisters. The notification is now made on the card notifying the birth and high risk factors. Previously midwives had to complete three separate forms.

The survey carried out by Dr. Josephine Weatherall, Medical Statistician, General Register Office, indicated that Cheshire was probably reporting fewer than 60 per cent. of congenital malformations in 1966. In 1967 the total number reported (238) was lower than that for 1966 (298), and temporarily reversed an upward trend, thus causing the increase in 1968 to seem disproportionately high in comparison.

Spina Bifida

On investigation into the number of cases of spina bifida born from January, 1965 to December, 1968 and living in the administrative county it was found that there was a total of 123 children. This includes children born outside the county but now living within. The number of live and still births with spina bifida in the county are as shown in the table below, as are the rates per 10,000 total births. This corresponds with the rates for the north-west region. It is interesting to note that as the rates per ten thousand total births are increasing the number of children born in each of the years surviving into 1969 remained the same.

Year of Birth	Born in Cheshire Live or Still Births	Rate per ten thousand Total Births	Surviving at 31-12-68
1965	50	27·0	27
1966	47	25·4	27
1967	53	28·4	27
1968	56	30·7	27

Unsupported Mothers

There were 1,088 illegitimate births in Cheshire in 1968, giving a rate of 1·02 per 1,000 population compared with a rate of 1·05 in 1967. In addition to illegitimate births there are many children in fatherless families where the mother has been widowed, separated or divorced. The unmarried mother has special problems prior to the birth, but afterwards she shares with this wider group the common problem of bringing up a child without a father in the home. It is only in recent years that these problems have been recognised. It is realised that adequate provision for this wider group is required, but first of all the size of the problem, together with the requirements, must be defined. As a first step in this direction a fact-finding investigation was started during 1968. All known illegitimate births were recorded and a specially designated member of the nursing staff collected data from health visitors. It is proposed to continue this investigation annually in order to obtain a knowledge

of the fate of these children. No further information is collected if an adoption order has been made. Information was obtained on 733 illegitimate babies in the three months following birth. This represents 67 per cent. of the total number of registered illegitimate births. Of the 733 babies, 232 were placed for adoption and 292 were accepted into the mother's family, 98 remained with their mother and putative father, 80 (that is, one in nine) were being cared for by their mothers alone. There were six stillbirths and four infants died, and 21 families left the county within three months of the birth. Twenty-one mothers were under 18 years of age and three were over 35 years. It is interesting to note that among social classes four and five it is usual for the babies of teenage girls to be absorbed into the family. Whilst this also occurs in social class three, more difficulties seem to arise in this type of home. It is precisely these difficulties which we wish to elucidate. So often it is easy to accept a young baby but not so easy to deal with the problems of early childhood. The problem of congenital defects among these babies does not appear to be great. Only seven babies had obvious defects at birth. The less obvious defects may be found as the child develops, and it is expected that this will result in further difficulties of acceptance into the family.

The Mother and Baby Home was closed towards the end of the year so that alterations to the buildings could be carried out. A more modern Home will be available next year to meet some of the needs of modern girls and their problems, both medically and socially. It would appear that there will be a need for Mother and Baby Homes for some years to accommodate girls who cannot stay in the community. Hospital confinements are always arranged and we welcome early discharge from the hospital to the home. It is essential to continue to keep trained staff to provide a high standard of care for both mother and baby.

DENTAL CARE

(from T. B. Dowell, Principal Dental Officer)

Introduction

The dental service for pre-school children and expectant and nursing mothers is fully integrated with the school dental service and patients are seen during normal treatment sessions.

In most areas mothers have no difficulty in obtaining treatment and it is clearly desirable to encourage them to seek regular treatment from a general dental practitioner. However, it seems that mothers living in places catering for overspill population are sometimes unable to obtain treatment under the general dental services, and the clinics provide a valuable service for them.

The majority of pre-school children do not receive routine dental care, although the treatment for this group provided by general dental practitioners has increased. There is a great need to expand the County Council's service in this field, and the development of child health centres on the lines described in the Sheldon Report will provide the opportunity to bring dentistry into the concept of care of the developing child.

Treatment planning for the very young child requires great care, and although it is hoped to employ increasing numbers of dental auxiliaries to care for this age group, children suitable for comprehensive conservation must be selected. There is a danger that much of the patient work done on young children may be wasted by subsequent neglect.

Annual Returns

Although the proportion of children seen in the clinics is rather low, the number is increasing. 2323 were examined, an increase of 8 per cent. over the previous year.

Similarly the number of items of treatment provided has increased. The returns indicate that 14 per cent. of attendances were for emergency treatment, and this is a sad reflection of the attitude of parents.

Prevention

In the absence of a decision in favour of fluoridation, the only preventive measure for the community at large is dental health education. In the schools there is an accessible captive community, but it is difficult to make contact with, and any real impact on, the parents of young children.

Every effort is made in the clinics to emphasise dental health and the means of maintaining it, but it is doubtful whether the occasional talk and poster display will result in the necessary change of attitude. In the absence of an effective nationwide programme one can only hope that successive generations of parents will be increasingly aware of the importance of dental health.

Conclusion

It is important to increase the service for the pre-school child, but this must not be done at the expense of older children who require treatment of the permanent dentition. The effectiveness of treatment for this age group needs to be carefully assessed to ensure that time spent at this stage makes a real contribution to the dental health of the future adult.

MENTAL HEALTH

MENTAL HEALTH

(from Dr. R. Blyth)

If we look in detail at the year 1968 so far as it has affected the Council's Mental Health Service, as one might look into the eye-piece of a kaleidoscope turning very slowly, we would see only minor changes, and despite the addition or subtraction of a touch of colour the general impression would be stability rather than change, and the service extended to the mentally disordered of the county would appear to be of a familiar and well-tried pattern.

Mental Welfare Officers

The mental welfare officer is the social worker in the field of psychiatry, and as such his duties are numerous and varied and bring him into close contact not only with the patient and his family, but also his friends and the people with whom he works. Mental wefare officers may be directly involved with patients or those with whom the patients are in contact, supporting them and helping them to understand the nature of the illness, handicap or emotional disturbance, and ensuring that they make the best use of the medical and social services which are available as well as offering practical help and advice. This helping process may be limited to a few visits or interviews or it may have to continue over a long period, according to the nature of the problem, the aim being to re-establish stability or to help the patient and his family to become competent to deal with difficulties as they arise. By providing a personal service of advice and support for the mentally disordered and for their families the mental welfare officer can do much to prevent a breakdown either of the mentally disordered person or his relatives, to obviate the need for admission or re-admission to hospital, or to aid rehabilitation. Through personal contact he can also establish what other services are appropriate and try to ensure that the mentally disordered take proper advantage of them.

In Cheshire, mental welfare officers are under the direction of the County Medical Officer, the Principal Medical Officer for Mental Health and the Chief Mental Welfare Officer. The county is divided into nine areas, each in the charge of an area mental welfare officer, all of whom are qualified social workers (three hold the Declaration of Recognition of Experience of the Council for Training in Social Work, one holds the Mental Health Certificate of a British University and five hold the Certificate in Social Work). During 1968 six Deputy Area Mental Welfare Officers were appointed in various areas as part of the county's policy to effect a qualified Mental Health Service. All these appointments were promotions from within the present mental health staff and all were qualified social workers holding either the Mental Health Certificate or the Certificate in Social Work.

At present 11 mental welfare officers are away on two-year full-time training courses—six at Millbank College of Commerce, Liverpool, and five at Manchester College of Commerce. It is hoped that six of these officers will return to duty in July, 1969, when a further allocation of mental welfare officers may proceed on the two year full-time training course.

Human relationships are best enhanced by greater understanding and appreciation of the various roles played by the individuals, both lay and professional, who collectively make up a community, and perhaps this is an appropriate time to outline part of a typical day in the life of a mental welfare officer, upon whose expertise and enthusiasm will depend the welfare of the mentally disordered.

The first hour of the day was spent in looking through the files of each patient to be visited, dealing with various matters carried over from the previous day, and reading the day's post.

Immediately before the time for leaving the office Mr. F., one of the regulars, came in. Poorly dressed and dirty, he stated that the previous day his wife had been

extensively burnt and admitted to hospital when the fire in the house had 'blown back'. His concern was twofold—that he would have to care for their child, and that somebody in authority should be made to compensate him for this accident. Gradually it was possible to enable him to concentrate his attention on the realities of the situation, and to formulate a plan. After the interview, telephone calls were made to the local N.S.P.C.C. inspector, informing him of the accident, and to the local hospital to ascertain the extent of Mrs. F.'s injuries and the length of time she would probably be in hospital.

Before the office could be left, Raymond was announced. At first he had not wished to have any contact with the Mental Health Service; however, he has now accepted mental welfare officer supervision, and due to his gross emotional immaturity coupled with intellectual retardation it is important to his welfare that supervision and support are continued.

The reason for this visit was that he wanted more money. He is not capable of managing his social security allowance and training centre payment and the mental welfare service does this for him. His appointment for today was for the afternoon; this was pointed out to him and he agreed to return in the afternoon.

At last a start on visits could be made, though with a much curtailed programme. Mrs. R. lives alone, although relatives live in the area. She is at times deluded and hallucinated and has expressed suicidal ideas. On the occasion of this morning visit, notable features were an increase in her visual hallucinations and her complaint of excessive salivation and rigidity of her limbs, possible side-effects of her medication in its present dosage. In view of this it was arranged for her next out-patient appointment with the psychiatrist to be brought forward.

The afternoon was to be spent in the office writing up case files, and in addition some office interviews had been arranged; the mental welfare officer was also on stand-by duty. A consultant psychiatrist telephoned, and this meant no less than ten telephone calls during the course of the afternoon to an approved school, the hospital and the probation service. Then came Raymond's return to the office, as arranged earlier in the day. Next a general practitioner telephoned and discussed the management of two of his patients who were suffering from chronic mental illness. An agitated relative of a patient also telephoned. As a result, it was necessary to contact the general practitioner and consultant psychiatrist and to make a home visit, so that the patient could be admitted to hospital. The mental welfare officer returned home at 7 p.m.

At 8 p.m. a telephone call was received from a hospital; a father had forcibly removed his son, who was in urgent need of treatment. It was arranged that the mental welfare officer should proceed to the patient's home accompanied by two police officers and an ambulance. All the relatives directed their aggression at the mental welfare officer and refused to allow the patient to be returned to hospital. With great difficulty, and after involvement of an inspector, a sergeant and two constables, the father finally agreed to accompany his son with the mental welfare officer back to hospital.

The mental welfare officer returned home at 1 a.m.

Training Centres—Adult

The needs of the subnormal and severely subnormal in the County continue to be met by the six Adult Training Centres situated at Ellesmere Port, Northwich, Crewe, Macclesfield, Altrincham and Hyde. No new Adult Training Centres came into operation during 1968 although plans were finalised for a new Adult Training Centre to be built at Heswall in the Wirral due to open in 1970. It will be recalled that the first County Adult Training Centre to open was Ellesmere Port with the result that this centre has the largest attendance and will undoubtedly be full by the end of 1969; the opening of Heswall Training Centre will of course relieve this situation.

The curricula at the Adult Training Centres follow the well-established pattern of traditional handcraft work, light assembly contract work and social training.

Work under the first two headings continue to be obtained for the Adult Training Centres by the superintendents without any difficulty, and a slow but steady rise in the income from the work done by the trainees has enabled the top rate of payment to be raised from 15s. 0d. to £1 per week, payable to those trainees who show greatest productivity. The importance of social training cannot be over-stressed; success in this field will enable a larger number of trainees to leave the Adult Training Centre and obtain gainful employment. At present 5 per cent. are successful in obtaining jobs and leaving the Adult Training Centre.

The social training programmes are being developed in all training centres, and one direct result of this can be seen in the success of adult training centre holidays taken at seaside resorts.

Most A.T.C. report that their 1968 seaside holiday was a great success, enjoyed by trainees and staff alike, and the experience of Altrincham is typical of all.

The party from Altrincham adult centre consisted of 38 trainees (22 males, 16 females), the Superintendent of the Adult Training Centre, three other members of staff and the Divisional Administrative Assistant. They left Altrincham for Scarborough on a Saturday morning by coach in bad weather, but in Scarborough the sun was shining, and during the week the party was able to visit a number of local places of interest.

On Thursday evening a party was held at the hotel, and an example of the kindness always extended to the party was seen in the gift by a local well-wisher of a large parcel of chocolates and sweets to be distributed amongst the trainees.

Training Centres—Junior

As with the Adult Training Centres, no new Junior Training Centres came into operation in 1968, although plans for a new centre at Neston were finalised. This centre should be completed early in 1970, and will relieve the pressure on Eastham Junior Centre, which as the first training centre to open in the county is in danger of becoming over-crowded. The present County Junior Training Centres are situated at Eastham, Crewe, Macclesfield, Hyde, Altrincham and Northwich.

It has always been the Council's policy to follow a curriculum at Junior Training Centres which enables each severely subnormal child to achieve his optimum level of functioning.

Elderly Mentally Infirm

In connection with centres mention must be made of Ashfield House, Macclesfield —a day centre for the elderly mentally infirm. Much was written last year about this centre, and it is only necessary to add now that the numbers attending have risen to 30. Two outstanding results of the work done at Ashfield are:—

1. The immense relief experienced by the family in having the daily care of their elderly relative undertaken by skilled and sympathetic staff at Ashfield House.
2. The very real improvement in physical health which the elderly mentally infirm show when they experience the facilities of the day centres.

Hostels

During 1968 the council's provision of hostels remained the same as the previous year and were as follows:—

Hostels for the Elderly Mentally Infirm

Hillbark, Frankby—42 beds.
Upton E.M.I. Wing—11 beds.

Nantwich E.M.I. Wing—11 beds.
Wilmslow E.M.I. Wing—11 beds.
Gatley E.M.I. Wing—11 beds.
Hyde E.M.I. Wing—11 beds.
Macclesfield E.M.I. Wing—11 beds.

Hostel for Male Subnormals

William Gibson Hostel, Wrenbury—45 beds.

Hostel for Female Subnormals

Macclesfield—22 beds.

Broadly speaking the function of all these hostels is to provide home, and work in the case of subnormals, for those mentally disordered persons whose own home has broken down, either because of the death of a relative or an inability on the part of the relatives to manage in a satisfactory manner while the mentally disordered person remains in the home. Before the Mental Health Act, if a household was unable for any reason to sustain its mentally disordered member, hospitalisation was the only alternative placement, although in a great many cases the patient did not need the special facilities which only a hospital can provide. The provision of hostels has given many patients the correct clinical provision which they need and has removed an unfair burden on hospitals.

Such is the need for hostel places that there is a waiting list at each hostel. In 1968 plans were finalised for building two new 25-bedded hostels for subnormal adults of both sexes at Ellesmere Port and Stalybridge.

The need for a hostel for severely subnormal children has been appreciated by the Council for some years, and 1968 saw the commencement of such a hostel at Crewe, a 20-bedded hostel adjacent to the Junior Training Centre. Plans for a similar hostel to be built at Neston were completed at the same time. The Crewe Hostel will be in operation early in 1969 and the Neston Hostel in 1970.

During 1968 great use has been continued to be made of the two hostels for the rehabilitation of the mentally ill; Chapel Hey, administered by Wallasey County Borough, and Tower House, Chester, under the direction of the Richmond Fellowship Organisation, and during the year 23 were admitted. Both these hostels are examples of the 'half-way house' so essential for the successful rehabilitation of the younger mentally ill patient, who although well enough to leave hospital is not yet able to face the normal rigours of daily living in an unprotected environment.

The Cheadle Royal Sheltered Workshops and Hostel continue to fulfil a vital role in providing work and accommodation for those mentally ill patients who otherwise would remain at home with little or no opportunity for work. By the end of 1968, 36 Cheshire patients were employed by the sheltered workshops, including 25 who were resident in the hostel.

The council makes a financial grant for patients attending the workshops and to those living in the hostel.

PHYSICALLY HANDICAPPED PERSONS

PHYSICALLY HANDICAPPED PERSONS

HANDICAPPED PERSONS—GENERAL CLASSES

In last year's report a review was made of the development over the years of services for the physically handicapped, and the pattern for their future development was drawn. Stress was laid on the importance of a team approach to the problem, on the acceptance of physical handicap as a family problem, not solely of the individual, and on the goal of a service working in the closest co-operation with district hospitals and with group and health centre practices.

During 1968, Dr. F. Seymour, Divisional Medical Officer, Mid-Cheshire, under whose medical direction the services operated, felt obliged to relinquish this office upon his appointment, additionally, to the post of Divisional Medical Officer for the Runcorn Division. The work Dr. Seymour did in pioneering these activities in many parts of the County, stimulating interest in it, merits the highest praise.

Five full-time occupational therapists were appointed, collectively serving ten divisions. With the exception of Stalybridge and Dukinfield, the services of occupational therapists are available in all divisions on a part-time basis varying according to need. The need, however, is increasing and the provision of purpose-built handicapped persons unit—the first of which is due to be completed at Northwich in the late summer of 1969—will necessitate establishment increases.

An enlightening and informative survey of handicapped persons who left school between 1962 and 1967 was carried out by the social worker for the physically handicapped. Of the 87 school leavers referred, 37 were excluded from the survey for various reasons, leaving a total of 50. All were interviewed, questionnaires were completed and the results collated. It was explained to parents that the study had a twofold purpose, (i) to ascertain what help the department could give to families at the present time, and (ii) to discuss services for the physically handicapped child and adolescent with the parents and their families, and to invite their views. As a result of the survey a number of actions were recommended and implemented. Supportive visits are still being made by the social worker.

A second and more comprehensive survey is being undertaken by the social worker in the area of the Macclesfield Divisional Health Committee. The purpose of the survey is to find out how many persons in the division between the ages of 16 and 60 years are suffering from varying degrees of physical handicap. In addition to the names and addresses obtained from the Divisional Register, the general practitioners in the area, the Department of Employment and Productivity, the Department of Health and Social Security, and the local hospitals, have all given their support and co-operation in the venture. As a result, a total to date of 500 referrals have been made. The survey continues and it is expected that it will provide a reasonably accurate indication of the extent of the problem in the Macclesfield Division and a guide to the services required over the whole of the county. The two surveys referred to above give some indication of the extent of the social welfare aspect of the development of services for the physically handicapped, and inevitably an increase in the establishment of social workers will be necessary.

Handicapped Persons Clubs are now operating in all divisions, meeting weekly in most instances. Most divisions hold separate handicraft classes run by qualified handicrafts teachers. Clubs are encouraged to run their own affairs, and their growing confidence is reflected in the variety of holidays, outings and functions arranged. The Highfield Club, Northwich, organised a day trip by air to the Isle of Man, and propose a day outing to London in 1969. These are steps in the progress towards holidays abroad, and it will be interesting to see which will be the first club or group to attain this objective. The assistance given by the Women's Royal Voluntary Service, the International Voluntary Service, and other voluntary workers at the clubs for the handicapped, and with transport, has been invaluable. Adequate transport is one of the more important single factors in the provision of services for the

physically handicapped. The demand for the use of the five special vehicles invariably exceeds their availability, and further developments of the services will undoubtedly create additional demands for transport.

Home Dialysis—Artificial Kidney Machines

In January 1968 the Ministry of Health informed local authorities of the increasing availability of artificial kidney machines for use in patients' homes. Selected patients would undergo approximately six weeks' training in the use of the equipment in a Hospital Urological Unit in order to master the technique. Upon discharge from hospital, a patient being treated in this way requires a room of approximately 100 sq. ft. to accommodate a bed, the artificial kidney machine, a large sink, shelving and fitted cupboards, and in some instances a water softener. The plumbing and electrical facilities need to be above the usual domestic standards, and a sealed vinyl floor covering is essential, as is also a telephone. Regional Hospital Boards are responsible for providing and maintaining artificial kidney machines and related equipment and will bear the cost of telephone charges and increased electricity charges. The local health authority's responsibility lies in adapting a suitable room in the patient's home or, where this is not possible, building an extension to the proptrty. This service forms part of the County Council's general scheme for adapting the homes of handicapped persons, details of which are given below. In Cheshire patients may be referred for home dialysis from three Hospital Urological Units, two in the area of the Manchester Regional Hospital Board and one in the area of the Liverpool Regional Hospital Board. It was originally considered probable that some six patients annually would require the service. In fact, four cases—at Crewe, Sale, Appleton and Gatley, involving all three Urological Centres—were dealt with in the latter half or the year. All these installations required adaptations to existing rooms, one of which is shown in the photograph opposite page 32. Six weeks is a short period in which to adapt a room or to build an extension to a house, but by means of the fullest co-operation between the departments concerned—Health, Architects, Planning and the Hospital Authorities—this has now been achieved.

Adaptations to Property

During the year the procedure for granting financial assistance to handicapped persons for adaptations to property was reviewed and a standard scheme formulated. The scheme, briefly, affords assistance as follows:—

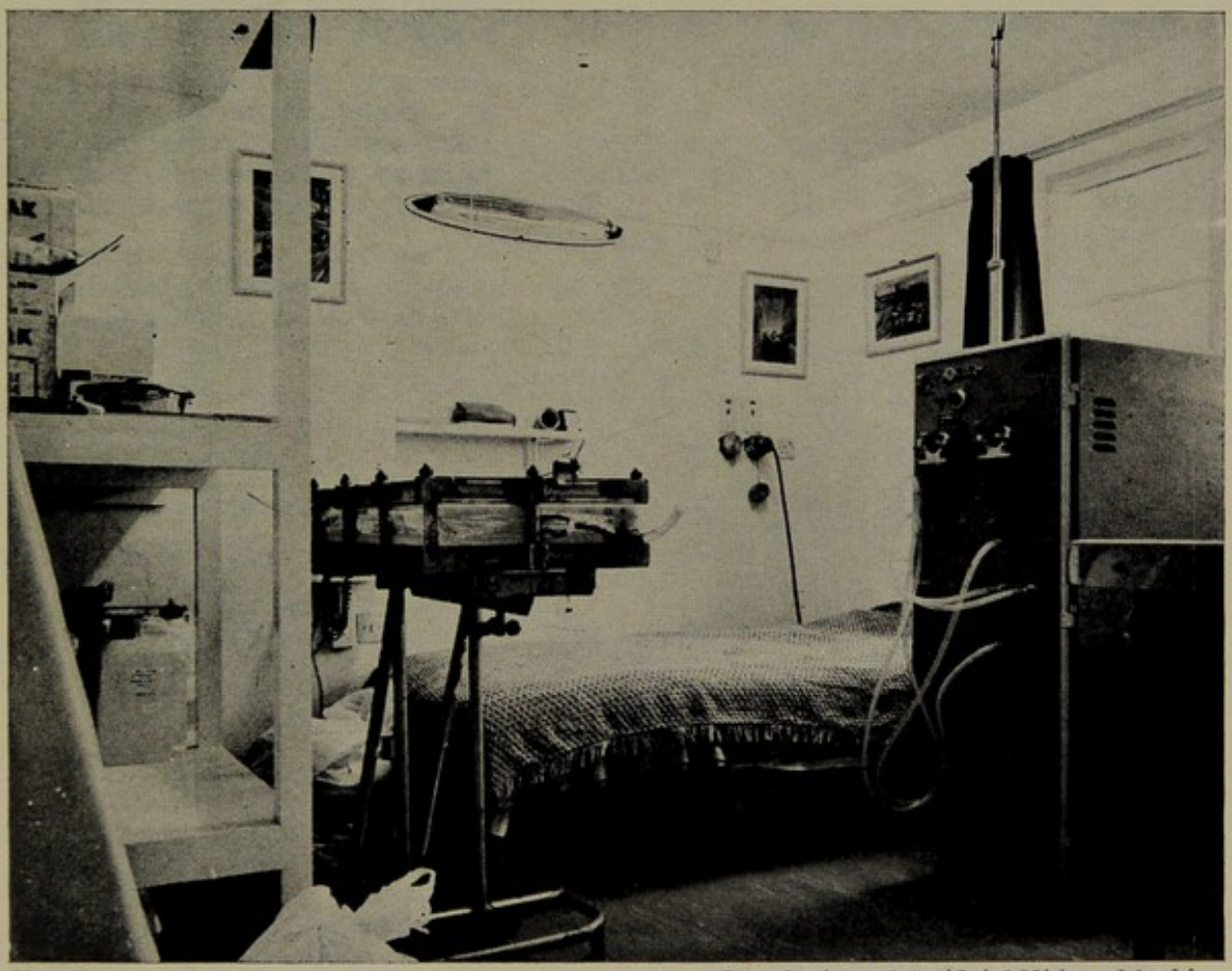
All rented premises—

By means of grant in all cases.

Owner-occupied houses—

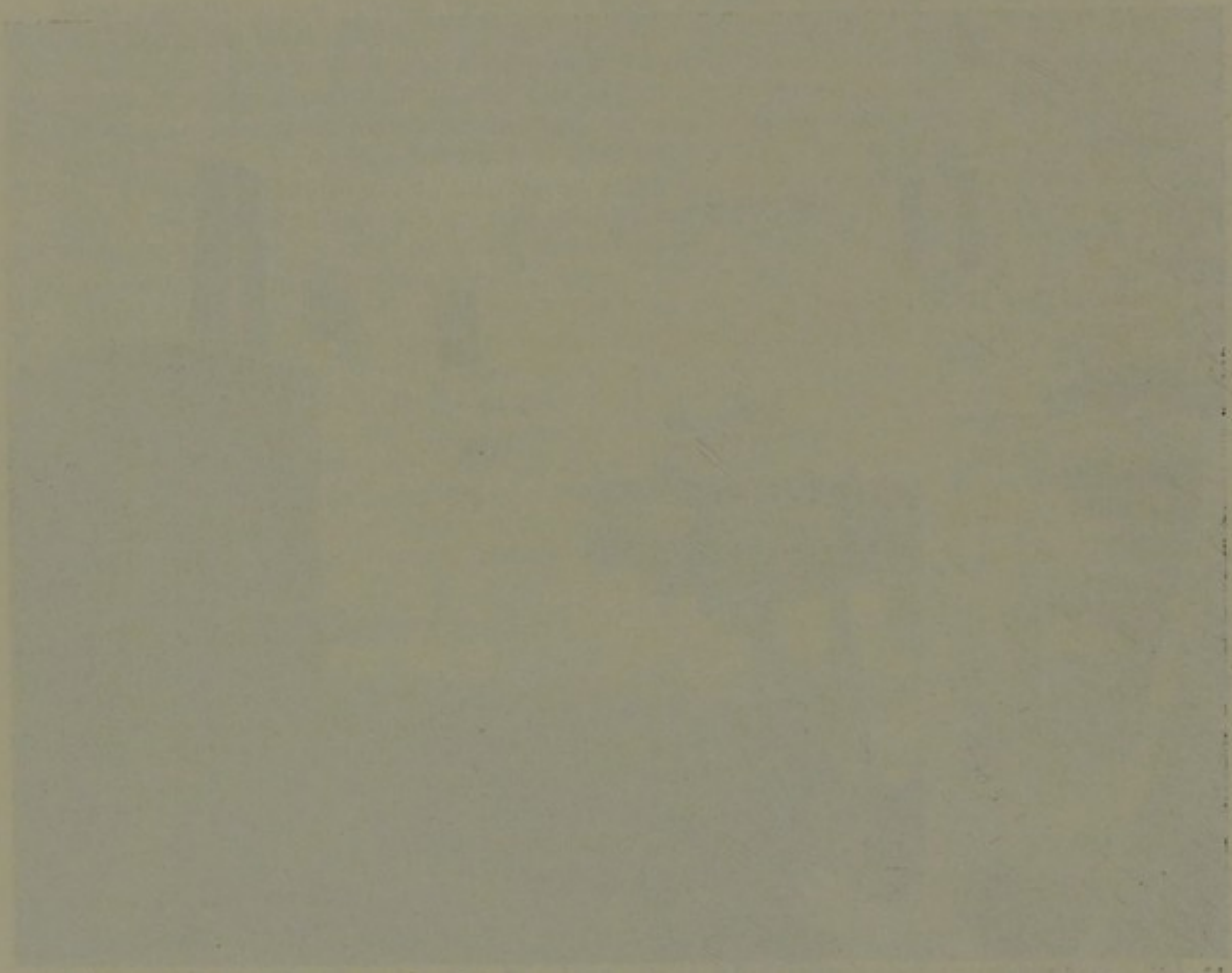
(a) By means of grant for all adaptations not exceeding £300, and for adaptations in excess of £300 where there is no enhancement of property values.

(b) By means of an interest-free loan where adaptations costing more than £300 enhance property values.



Handicapped Persons

Installation of Artificial Kidney Machine



The numbers of persons on the register of handicapped persons (general classes) were as follows at 31/12/68:—

Major Handicaps	Age: Under 16	16—29	30—49	50—64	65 or over	Total
Amputation	3	14	28	58	97	200
Arthritis or rheumatism	5	15	58	214	651	943
Congenital malformations or deformities	209	91	37	19	38	394
Diseases of the digestive and genito-urinary systems, of the heart or circulatory system, of the respiratory system (other than tuberculosis) or of the skin	44	94	51	91	312	592
Injuries of the head, face, neck, thorax, abdomen, pelvis, or trunk; injuries or diseases (other than tuberculosis) of the upper and lower limbs and of the spine	32	50	51	65	119	317
Organic nervous diseases — epilepsy, disseminated sclerosis, poliomyelitis, hemiplegia, sciatica, etc.	122	227	268	282	252	1151
Neuroses, psychoses, and other nervous and mental disorders not included above	15	73	23	25	26	162
Tuberculosis (respiratory) ...	9	34	174	95	40	352
Tuberculosis (non-respiratory) ...	10	37	36	7	14	104
Diseases and injuries not specified above	59	64	24	36	144	327
Totals	508	699	750	892	1693	4542

BLIND PERSONS

General

The execution of the Council's approved scheme has been delegated to the Blind Welfare Societies at Chester, Ashton-under-Lyne and Macclesfield, and the services of these societies have been extended, so far as is appropriate, to partially sighted persons. These services vary only slightly as between one Society and another, though the Chester Society has by far the largest area. The duties of the home teachers are varied and exacting, and include helping both the blind persons and the family in the process of re-adjustment. They must have specialized knowledge of both social and industrial re-education and rehabilitation. In support of their work the general welfare provided by the Societies includes regular social and handicraft centres, the organisation of day trips and extended holidays, Christmas parties, maintenance of radio sets, etc. There is a small workshop at Chester, and the Society also administers a home workers' scheme. Many blind persons have also been helped to obtain employment in open industry.

Incidence of Blindness

During the year 1968 there were 462 forms B.D.8 received for the county. These were classified as follows:—

Registered as blind	258
Registered as partially sighted	161
Not registered	43

Workshop Employees

There were three male and one female employees at Chester, five male employees at Stoke-on-Trent, three males and one female at S.E.L.N.E.C., one male employee at Warrington, one male employee at Stockport and two male employees at Liverpool at the end of 1968.

Home Workers

Augmentation in accordance with the national scheme was given by the council to all county approved workers, who numbered ten at the end of 1968.

Holidays

During the year 51 blind persons were accommodated in holiday homes under the county scheme whereby blind persons in receipt of social security benefit can be sent to a recognised home for the blind. The blind person pays £1 towards the cost of one week's holiday, and the balance is paid by the county council.

Rehabilitation

One man and three women were maintained during 1968 at the National Institute's Rehabilitation Centre, Oldbury Grange, Bridgnorth.

National Library for the Blind

Grant and augmentation were made in 1968 to the National Library for the Blind on behalf of two Cheshire home workers who are blind copyists for its northern branch, apart from the usual annual grant for general services, which are used by over 100 Cheshire residents.

Statistics

Number or registered blind persons in the county at 31st December, 1968:—

Under five years	8
5—16 years	40
16—21 years	23
21—40 years	91
40—50 years	98
50—65 years	284
65—70 years	175
70 years and over	1162
Unknown age	1
Total	1882

Registered blind persons in county, aged over 16 years, employed or otherwise, at 31st December, 1968:—

Employed:—	
In workshops and workrooms	15
As home workers	12
Variously	104
Not employed:—	
Under 65 years of age	360
65 years of age and over	1338
Undergoing training	5
At school	29
Not at school	19

DEAF PERSONS

The county is fully covered by voluntary societies for the deaf, which act as agents for the county's authorised scheme. They comprise the Chester and North Wales Society for the Deaf, the Warrington and District Society for the Deaf, the Manchester Institute for the Deaf, and the Liverpool Deaf and Dumb Institute; some persons on the latter's list also receive services from the Liverpool St. Vincent de Paul Society (Roman Catholic).

The services provided include placing in employment, recreation both physical and mental (including social clubs, sports and holiday outings), spiritual care (using speech, signs and finger spelling) and general help in social adjustment and in relations with the various authorities.

A grant is also paid to the North Regional Association for the Deaf in respect of its statistical, co-ordinating, and educational work.

The registers kept by the societies of deaf persons are sub-divided on the following lines according to the person's present condition and needs rather than according to the origin of his disability.

Deaf without speech:

Those who have no useful hearing and whose normal method of communicating is by signs, fingers, spelling or writing.

Deaf with speech:

Those who (even with a hearing aid) have little or no useful hearing, but whose normal method of communicating is by speech and lip-reading.

The numbers of Cheshire persons on the registers of the societies at 31st December, 1968, were as follows:—

	Under 16 years	Adult	Total
Deaf without speech	12	286	298
Deaf with speech	10	101	111
Hard of hearing	18	62	80

ENVIRONMENTAL HYGIENE AND PUBLIC HEALTH ADMINISTRATION

ENVIRONMENTAL HYGIENE AND PUBLIC HEALTH ADMINISTRATION

ENVIRONMENTAL HYGIENE AND PUBLIC HEALTH ADMINISTRATION

(from W. Pembleton, County Public Health Officer)

MILK AND DAIRIES

The Department continued its work during the year in connection with the milk supply. All milk samples collected in connection with this work, as well as washed bottles for rinse examination, are examined by the Public Health Laboratory Service of the Department of Health and Social Security, which provides the County Council with a free service for these purposes. We are greatly indebted to the laboratory services for their co-operation.

In the early part of the year, in consultation with the Directors of both the Public Health Laboratories, a review of sampling frequencies and coverage was carried out. It was agreed that the sampling of untreated (raw) milk was of the utmost importance, but that some reduction in the testing of heat-treated milk (pasteurised and sterilised) for correct heat-treatment could be made. As a result of the consequent re-appraisal, some rationalisation of sampling has been effected, particularly in respect of phosphatase examinations of dealer and school milk samples.

(a) Milk Production

Production is licensed and supervised by the Ministry of Agriculture, Fisheries and Food, but producers bottling milk not of their own production are licensed by the County Council (see Distribution), and a specific duty is also laid upon County Councils by Section 31 of the Food and Drugs Act, 1955, to administer provisions designed to prevent the sale of diseased milk. The two principal diseases which milk may convey are tuberculosis and brucellosis.

This work is particularly important in view of the fact that there are 241 herds in the county from which milk is sold raw to the public. It is estimated that approximately 8,000 gallons of milk are sold under the designation untreated (raw) in the administrative county. This represents 9% of the population, which is more than double the national average of 4 per cent. Owing to the restrictions imposed by the disastrous outbreak of foot and mouth disease, milk sampling on farm premises was kept to a minimum until May 1968, when for Cheshire the restrictions were removed.

(i) Tuberculosis. During 1968, 608 samples were submitted for biological examination from 241 'raw milk herds'. In no case was tuberculosis infection detected. These examinations are time-consuming from a laboratory standpoint (but not from a sampling point of view, as the same samples are utilised for both brucella and tubercle examinations) as well as heavy in the use of guinea-pigs, and it is necessary therefore to ensure that the cover provided is adequate but not excessive, particularly as positive samples are extremely rare. Henceforth smaller raw milk supplies (up to ten gallons per day) will be examined once in two years.

(ii) Brucellosis. The department's extensive work in co-operation with the district council health departments continued in accordance with the Ministry of Health Circular 17/66.

The sampling frequencies and procedures evolved in 1967 proved highly satisfactory and were not changed, and details are given in a subsequent table.

During the course of the year, 49 different herds were found to be brucella infected in some degree.

The figures appear to indicate that the level of brucella infection in the raw milk herds of the county has been reduced significantly since the recommendations of the Ministry of Health Circular were implemented at the beginning of 1967.

The human case register maintained in the Department since May 1961 now stands at 163. The majority of these cases were infected by drinking raw milk and the remainder by contact with animals.

Progress with regard to the Ministry of Agriculture's Brucellosis (Accredited Herds) Scheme is slow, and in Cheshire it was affected by the foot and mouth disease outbreak. The position in the early part of 1969 was that of 4,000 dairy herds in Cheshire, 68 had become fully accredited, of which eight are producer/retailers.

(iii) Antibiotics in Milk. Antibiotics are widely used for the treatment of mastitis in cattle, and it is most undesirable that traces of antibiotics should be present in milk. Sampling for the detection of antibiotics in milk has therefore been continued during 1968. Since the pasteurising dairies are carrying out periodic checks on their incoming farm milk supplies, the department has concentrated its attention on producer-retailer milks and other 'raw milk' supplies, using samples obtained for brucella and other examinations. A total of 2,219 samples was examined, of which three were reported as containing antibiotics. Appropriate action was taken in these cases including re-sampling. In no instance was the repeat sample unsatisfactory.

(b) Milk Processing

The County Council is responsible for the important functions of licensing and supervising all milk pasteurising and sterilising plants in its 'Food and Drugs' area.

At the end of 1968 eleven pasteurising establishments and one sterilising establishment were licensed. Both processes ensure destruction of all pathogenic organisms without any significant effect on the nutritive quality of the milk, and at the same time give enhanced keeping qualities. A further method of treatment has been introduced recently which gives milk a shelf-life of months, and a flavour somewhere between that of pasteurised milk and sterilised milk. The milk is designated 'ultra heat-treated' (U.H.T.) and it is on sale in the county, though no plants are yet operating here.

Two producer/retailers have indicated that they intend to operate holder-type pasteurising plant at their farm premises. It is expected that these plants will be licensed during the coming year when the necessary work has been completed.

Tables at the end of the section set out the results of sampling carried out at the licensed dairies. It will be noted that there were only two phosphatase test failures (this test is the official test for the correct heat-treatment of milk) and five methylene blue test failures (for cleanliness and keeping quality). All the failures were fully investigated and steps taken to prevent recurrence. Washed bottles are collected by sampling officers from each bottle-washing machine at the processing dairies at regular intervals so as to check the efficiency of the bottle-washing procedures. A total of 1,095 bottles were examined during 1968, 973 of which were satisfactory, 22 fairly satisfactory and 100 unsatisfactory. Particular difficulties were experienced at three of the dairies with regard to bottle washing. These were resolved after appropriate action.

(c) Milk Distribution

The County Council is responsible for the licensing of all milk distributors by the issue of Dealer's (Pre-packed Milk) Licences, and of all establishments where untreated milk is bottled, other than the farms where the milk is produced, by the issue of Dealer's (Untreated Milk) Licences.

On 31st December, 1968, there were 1,331 pre-packed milk licences and 19 untreated milk licences in operation. These figures are almost identical with those at the end of 1967. Inspection of all premises is carried out before licences are issued, and systematic sampling is arranged to give coverage to all the licensed dealers according to the types of milk being sold. Retail sampling of producer/retailers is also carried out, as is the sampling of milk supplied to county premises such as children's homes, schools, old people's homes and day nurseries.

The tables of figures summarise the sampling work carried out under the various categories, with the results obtained.

Appropriate action is taken in the case of all unsatisfactory samples.

(d) Cream

The department is co-operating with both the Public Health Laboratories in the survey which is being carried out by the Public Health Laboratory Service throughout the country into the bacteriological quality of cream on sale to the public.

During 1968, 169 samples of cream were submitted to the two laboratories, 49 being 'raw' cream and the remainder 'pasteurised' cream, i.e. cream which has been subjected to some form of heat treatment though no statutory requirements for such processing have been laid down.

All the 'raw' cream samples were examined culturally for the presence of the organisms of brucellosis, but none was found to be positive.

It is well known that the bacteriological quality of cream on sale to the public leaves much to be desired, but the Government has not so far found it possible to lay down statutory tests and statutory standards, nor has it been possible as yet to evolve a reliable test for the effective pasteurisation of cream (corresponding to the phosphatase test for pasteurised milk).

It is with these aims in mind that the current survey is being undertaken, and the Department has been happy to co-operate.

STATISTICS, 1968

(1) Analysis of Milk Samples Collected During 1968

	Untreated											Pasteurised						Steri-ised	U.H.T.
	Total Sub-mitted	Biological		Cultural		Methylene Blue				Penicillin		Total	Methylene Blue			Phos.		Total	Total
		Total	B.Pos.	Total	B.Pos.	Total	Sat.	Fail	Void	Total	Pos.		Sat.	Fail	Void	Sat.	Fail		
Dairies	—	—	—	—	—	—	—	—	—	—	—	1738	1733	5	—	1736	2	115	—
Schools	22	22	—	2	—	22	22	—	—	22	—	1481	1418	57	6	605	—	—	—
County premises	—	—	—	—	—	—	—	—	—	—	—	212	194	11	7	32	—	—	—
Dealers	2742	158	13	228	42	2742	2427	233	82	1748	3	5770	5530	187	53	1138	1	370	77
Farms	626	425	6	65	19	—	—	—	—	449	—	—	—	—	—	—	—	—	—
Individual cow samples	1738	3	1	197	51	—	—	—	—	—	—	—	—	—	—	—	—	—	—
TOTALS	5128	608	20	492	112	2764	2449	233	82	2219	3	9201	8875	260	66	3511	3	485	77

(2) Results of Bottle Rinse Examinations

	Satisfactory	Fairly Satisfactory	Unsatisfactory	Total
Pasteurising Dairies	973	22	100	1095
'Untreated' Bottling Dairies	147	7	8	162
Totals	1120	29	108	1257

(3) Sampling Summary

Premises or Distribution	Number	Samples Taken		
		Milk	Washed Bottles	Cream
Processing Dairy (Pasteurising or Sterilising)	12	1853	1095	—
Schools	600	1503	—	—
County Establishments ...	92	212	—	—
Dealers and Producer-retailers	1591	8959	162	169
Farms (including individual cow samples)	241	2364	—	—
Totals	2536	14891	1257	169

(4) Brucellosis—Untreated (Raw) Milk Statistics—1960/68

							Milk Sampling by		
	Number of Raw	Samples Collected I.C.S.†					Milk Ring Positive		
Year	Milk Herds	Dealer	Bulk	Cows	Samples	Total	Dealer	Bulk	I.C.S.†
1960	400§	—	563	—	—	563	—	—	—
1961	400§	285	702	—	—	987	—	—	—
1962	325	302	1395	—	186	1883	—	—	—
1963	335	244	2362	—	1031	3637	—	—	—
1964	319	365	2444	899	1150	3959	—	—	—
1965	286	2921	2336	1207	1438	6695	—	—	—
1966	263	2556	2229	1089	1271	6056	—	—	—
1967	253	3147	774	3132	3423	7344	569	220	594
1968	241	2764	624	1599	1738	5126	230	65	197
TOTALS		12584	13429	7926	10237	36250	799	285	791

†—Individual Cow Samples.
§—Approximately.
*—Including Previous Years.

County Health Department						Raw Milk Herds		Human Cases
	Brucella Positive				No. of Herd Investigations (County)	Brucella Positive No.	%	Notified (based on date of onset)
Total	Dealer	Bulk	I.C.S.†	Total				
—	—	43	—	43	—	—	—	36*
—	16	44	—	60	—	—	—	19
—	9	80	17	106	10	46	14·15	20
—	4	80	76	160	46	44	13·17	19
—	14	87	112	213	43	56	17·55	29
—	49	57	137	243	55	67	23·43	13
—	30	50	55	135	46	48	18·25	11
1383	38	34	81	153	198	69	23·32	9
492	42	19	52	113	81	49	20·33	5
1875	202	494	530	1226	479	—	—	161

WATER SUPPLIES, SEWERAGE AND SEWAGE DISPOSAL

The department continues to take a very active interest in the provision of these basic services throughout the county.

(a) Regrouping of Water Undertakings

The number of water undertakings serving the county still numbers ten, though on 1st April 1968, a new undertaking, the West Pennine Water Board, replaced the Ashton-under-Lyne, Stalybridge and Dukinfield Joint Committee.

It is expected that the Runcorn District Water Board will merge with the Warrington Corporation undertaking on 1st April 1970, to form a new Water Board. This will regularize the position of Runcorn New Town, which is at present within the area of supply of both authorities.

(b) Fluoridation of Water Supplies

No further progress in this matter can be reported.

(c) Lead in Drinking Water

A number of conferences were organised by the Department with water authorities serving the county to discuss the situation regarding plumbo-solvency in the various supplies, and to arrange for suitable sampling and other action as thought necessary.

(d) Safeguards to be adopted in the Operation and Management of Waterworks

In 1967, the Ministry of Housing and Local Government issued a booklet with the above title, setting out the matters to which water undertakings should give attention in the field of public health; they should make full use of competent medical and other expert advice, and the medical officer whose services are employed should be experienced in the fields of public health and epidemiology. Several of the water authorities serving the county already had medical advisers, and the remainder were reminded of the terms of the Ministry's booklet and asked to consider making a suitable appointment. Such appointments do not, of course, absolve district medical officers of health from the duty of satisfying themselves that the water undertakings are carrying out their statutory obligation to provide wholesome water.

(e) Financial Assistance to District Authorities

During the financial year which ended on 31st March, 1968, a total of £39,071 was contributed by the County Council to the county district councils which qualified for assistance either under the Rural Water Supplies and Sewerage Acts or under Section 56 of the Local Government Act of 1958.

In the financial year which ended on 31st March, 1969, the total was £40,521, of which £39,050 was contributed under the Rural Water Supplies and Sewerage Acts and £1,471 under the Local Government Act.

(f) Schemes of Water Supply, Sewerage and Sewage Disposal

During the year under review, two small schemes of water supply estimated to cost £1,807 and five schemes of sewerage and sewage disposal estimated to cost £585,755, submitted by District Councils for grant under the Rural Water Supplies and Sewerage Acts, were considered by the Department. All the schemes were approved subject to various suggested amendments, which were all agreed by the District Councils concerned, and the schemes subsequently received the approval of the County Council in these terms.

In addition, five applications were received from District Councils seeking assistance from the County Council under the terms of Section 56 of the Local

Government Act of 1958. This section empowers the County Council to 'make any contribution the council thinks fit to expenditure of the council of a county district in the county.'

The schemes totalled £1,485,205, in estimated costs and involved works of sewerage and sewage disposal as well as associated works such as river improvement and sludge and refuse disposal works, none of which ranked for grant under the Rural Water Supplies and Sewerage Acts.

All the schemes were investigated by the department from a technical standpoint.

The County Council's policy is to make contributions under this section only in the case of schemes which would impose an exceptionally heavy additional burden on the ratepayers of the area. Only one of the schemes fell into this category, and in this case it was agreed to make an annual grant of £7,500 for five years and then to review the matter. The attached table summarises the schemes dealt with under the Rural Water Supplies and Sewerage Acts and also under the Local Government Act.

(g) Local Inquiries and Investigations of the Ministry of Housing and Local Government

During the year, inspectors of the Ministry held eight inquiries into drainage, sewerage disposal, and water supply schemes, and the department was represented at each by the County Public Health Officer.

Rural Water Supplies and Sewerage Acts—Applications Dealt with During 1968

Authority	Description of Scheme	Estimated Cost	Decision
		£	
Bucklow R.D.C.	Warburton Sewerage and Sewage Disposal Scheme	27,000	Approved conditionally
Macclesfield R.D.C.	Adlington Sewerage Scheme	5,511	Approved conditionally
Macclesfield R.D.C.	Marton Sewerage and Sewage Disposal Scheme	16,644	Approved
Nantwich R.D.C.	Wrenbury and District Sewerage and Sewage Disposal Scheme. (Comprehensive scheme to serve parishes of Baddiley, Broomhall, Burland, Marbury, Newhall, Norbury, Sound, Woodcott and Wrenbury.)	486,000	Approved conditionally
Runcorn R.D.C.	Amended sewerage scheme for the parish of Antrobus	50,600	Approved
	Water supply scheme for the parish of Antrobus		
	(a) 'Arley Cottage'	1,117	Approved
	(b) 'Scotch Hall'	690	Approved

Local Government Act, 1958, Section 56—Applications During 1968

Authority	Description of Scheme	Estimated Cost	Decision
		£	
Nantwich U.D.C.	Town Sewerage and Sewage Disposal Scheme and associated River Improvement Scheme	580,178	No assistance granted
Bucklow R.D.C.	Extension of Partington Sewage Disposal Works (not eligible for grant under Rural Water Supplies and Sewerage Acts)	105,000	No assistance granted
Bredbury & Romiley U.D.C.	Main drainage scheme, Stockport Road East, to alleviate flooding.	105,000	No assistance granted
Alsager U.D.C.	Comprehensive Sewerage and Sewage Disposal Scheme, including sludge and house refuse composting plant.	432,027	No assistance granted
Alderley Edge U.D.C.	Reconstruction of sewers in town centre.	263,000	Annual grant of £7,500 for five years after which the position to be reviewed.

General

(1) Liaison with County Planning Department

The department is being increasingly used by the Planning Department for comments on the public health aspects of planning applications.

During 1968, 31 applications for planning approval covering a wide range of activities were referred to the department and in each case full consideration of all public health aspects was given by the County Public Health Officer and reports submitted for the assistance of the Planning Officers. In addition, the County Public Health Officer attended two meetings and a public inquiry on planning matters.

(2) Liaison with County Surveyor's Department

Applications for the disposal of sewage effluent by connection into County Council surface water drains are reported upon by the department.

Schemes of water supply, sewerage and sewage disposal dealt with by the department are also discussed with the County Surveyor's Department so that any matters affecting highways can be raised and dealt with.

(3) Nursing Homes, Old Persons' Homes, Disabled Persons' Homes, Day Nurseries, and Play Groups

The County Public Health Officer's section has continued to assist in work connected with the registration of these premises, particularly when difficulties arise with regard to structure and sanitary and food hygiene arrangements. Plans for new homes, or for extensions or adaptations are also examined and suggestions made with a view to obtaining the best possible conditions and facilities.

(4) Intensive Farming

The department continues to be involved in this subject in a number of ways and requests for copies of the Cheshire Working Party Report are still being received.

In connection with intensive poultry farming a very serious outbreak of food poisoning occurred in Liverpool at the end of June, 1968, when 44 cases of severe illness were shown to be caused by the consumption of chickens infected with Salmonella Virchow. Investigations showed that frozen chickens from a packing station in Cheshire were contaminated with Salmonella Virchow. This packing station was the centre of a farming co-operative consisting of seven breeding flocks from which eggs went to a single hatchery. This hatchery in turn sent day-old chicks to 16 rearing farms which keep the birds in deep-litter houses for nine weeks and then send the mature birds for slaughter at the packing station. A number of unsatisfactory features were revealed by the investigations carried out into this outbreak, of which the Department of Health and Social Security and the Ministry of Agriculture, Fisheries and Food are aware.

The extensive use of antibiotics in poultry, which the Working Party Report commented upon, was also shown yet again to require study. It is therefore pleasing to note that a Committee has been set up under the chairmanship of Professor Swann, Principal and Vice-Chancellor of Edinburgh University, to go into the whole question of the use of antibiotics in animal husbandry and veterinary medicine, the associated phenomenon of infective drug resistance, and their effects upon human and animal health. The report of this Committee is awaited with interest.

(5) Oil Pollution of Beaches

During 1968, the Ministry of Housing and Local Government called upon all County Councils and County Borough Councils in coastal areas to prepare forthwith schemes to deal with oil pollution of beaches or threats of such pollution.

Although this matter is not primarily of public health significance, the County Public Health Officer has attended the preliminary meetings and also has served on the Working Party set up to formulate a scheme of organisation.

Dr. D. R. Morris, Medical Officer of Health to the Urban District Councils of Hoylake, Neston and Wirral has agreed to be responsible for all health aspects of the scheme and for arrangements for providing medical attention throughout the area of the scheme, should it be required. He has prepared notes on the medical aspects of the use of detergents and emulsifiers in dealing with oil pollution.

A most comprehensive scheme of organisation has been prepared, with the collaboration of all interested bodies, and the County Chief Fire Officer, Mr. A. H. Warren, has been appointed as Oil Pollution Officer for the County.

AMBULANCE SERVICE

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AMBULANCE SERVICE

(From the County Ambulance and Transport Officer, R. Glyn Jones)

The use of Wrenbury Hall as an ambulance training school has been the major development during the year. Ambulancemen are given a six-weeks intensive course in the rudiments of 'ambulance aid'. During training, the students live on the premises from Monday to Friday. The standards attained are high and the enthusiasm of the students and staff ensure that patients handled by the ambulance service will have the best of treatment and care. Appreciations from hospital staff, casualty departments, general practitioners and patients provide evidence that the new training scheme is producing good results.

The ambulanceman's training includes co-operation with the police and fire services and on numerous occasions throughout the year, favourable comments have been made on the teamwork of the three services at road accidents. During the year ambulance instructors have been giving short courses to firemen throughout the county, on resuscitation and emergency first aid measures and I should like to record my thanks to the Chief Fire Officer for his co-operation in this important task.

In addition, an instructor course was held, when 22 ambulancemen volunteered to take part. The Department of Health and Social Security has requested the service to run instructor courses on a national basis next year.

In October, the Chief Constable held a major road accident exercise in Oulton Park, from which some useful lessons were learnt. It is hoped that similar exercises will be held annually.

Although the ambulance statistics appended show little variation in patients carried, they do not take into account the patients carried by hired transport on behalf of the service, which accounts for a further 8,000. In addition there has been an increase of 2,807 patients using the Hospital Car Service.

The increase in day treatment and day hospitals, psychiatric care and housing development throughout the county results in patients being carried on new routes, which is time-consuming and diverts vehicles from normal routine journeys. There is also a substantial increase in inter-hospital transfer of patients to make greater use of beds.

All these activities improve facilities for patients but place a great strain on the ambulance service.

There has been a slight decrease in persons injured in road accidents attended by the service, but the severity of injuries is increasing.

In December, the new ambulance station at Dukinfield came into operation replacing the rented premises previously used in Hyde and Stalybridge. The new building is of a very high standard, having accommodation for twelve vehicles, and in addition provides excellent workshop facilities for the north-eastern area.

Statistics

Staff

Number at 31st March, 1969 (including 50 officers)	299

Vehicles

Ambulance	50
Dual-purpose	57
Handicapped Persons	5
Total	112

Stations	19
Radio Equipment	
Fixed Stations	2
Mobiles	86
Mileage	
Ambulances	1098567
Dual-purpose vehicles	997054
Total	2095621
Patients	
Ambulances	149996
Dual-purpose vehicles	227708
Total	377704
Journeys	
Ambulances	38813
Dual-purpose vehicles	22982
Total	61795
Accidents and Emergencies	
Road Traffic	4448
Home Accidents	2730
Works Accidents	724
Collapses, sudden illness	1190
Maternities	4357
Other emergency cases	6304
Total	19753

Supplementary Services (Hospital Car and Taxi Services)

Mileage	175824
Patients	11149
Journeys	4984

Population Served and Acreage

	Population	Acreage
Registrar General's estimate, mid-1968	1056370	622042
Less covered by agency services of:—		
Chester C.B.	10000	6000
Stockport C.B.	23500	8000
Derbyshire C.C.	3040	2208
Salop C.C.	900	4700
	37440	20908
Net service area	1018930	601134

OCCUPATIONAL HEALTH SERVICE

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OCCUPATIONAL HEALTH SERVICE

In July, 1968, Chief Officers were told of some of the problems a County Occupational Health Service could undertake. It was pointed out that any concern employing 29,000 employees upwards must think seriously about the health of its employees in relation to occupation.

It was not until September that the service was initiated. Four members of the medical staff were selected for the Occupational Health Service team. The various departments of the County Council were visited by the doctors in the course of their preliminary investigations, and much useful information was ascertained.

It was decided that the service would be operational from 1st April, 1969, and would be developed at Clinic Centre, St. Martin's House, Chester, as a pilot scheme and later extended to other parts of the County.

The first stage was defined as the provision of a service for senior staff examinations on a voluntary and confidential basis, and in addition to this the Occupational Health Service will be available should a chief officer wish to refer a member of his department for either of the following reasons:—

(a) Investigation following serious illness or prolonged sickness absence.

(b) Any cases of suspected ill-health which the chief officers may feel justified in referring.

Consultation may also be arranged at the direct request of the employee.

It is intended that senior executives who are usually subject to considerable stress and strain should be examined every two years over the age of 40 and annually after 50, on the lines of the general principles followed by the Institute of Directors. It is recommended also that those who drive in the course of duty, such as fire and ambulance personnel, should have an examination every three to five years over the age of 50.

Consultant's advice is available to the Occupational Health Service, and we are pleased to have the help of Dr. Kiloh, Consultant at Chester Royal Infirmary.

As the service develops, a more general staff occupational health service will be provided, based on need as assessed by the Occupational Health Service doctors from their acquired experience of the staff and functions of the various departments. The service will be able to advise employees in the following three ways:—

(1) Consultation.

(2) Resettlement.

(3) Hazards associated with employment.

The service does not provide treatment; it is designed to meet needs not catered for at present.

DIVISIONAL SERVICES

DIVISIONAL SERVICES

DIVISIONAL SERVICES

General

The policy of devolving local health service activities, forecast in the report for 1967, was put into practice during 1968, and though not yet complete it is progressing well.

Chiropody

The first full-time county chiropodists were appointed during the year under review and dealt with cases referred to them in the following divisions:—

Hyde, N.E. Cheshire, Stalybridge & Dukinfield—Mrs. J. Rogers.

Macclesfield, S.E. Cheshire—Mr. F. Murphy.

For the time being they are seeing patients at clinics equipped for the purpose, and at Old People's Clubs, etc., but a limited service for treatment and inspection of school children is scheduled to start at a later date.

It is hoped that further full-time appointments will be made in the financial year 1969/70, and all these appointments will result in a reduction of the cost of this service.

The service continues to be operated mainly through private chiropodists on the County Council's approved list. The service has been readily available to persons over the age of 65 years, physically handicapped persons and expectant mothers, where there has been a medical recommendation.

Persons Assisted	*1967*	*1968*
Number of cases	12286	13080
Number of treatments	66342	68923

Convalescence

The assistance given to approved applicants, either to enjoy short periods (usually up to a few weeks) by way of recuperation, or to provide relief where relatives are under the constant strain of caring for mentally subnormal and other handicapped members of the family, remains an important facet of the County Council's after-care medical services.

Number of Persons Assisted	*1967*	*1968*
Recuperative Convalescence	189	173
Other short stay accommodation	166	198

Home Help Service

The service continues to expand, and the increased cost of its provision has caused concern. Nevertheless it provides an important part of the County Council services for community health, and is much cheaper than providing the hostel and hospital care which in many cases would otherwise be required.

Each division has its own organiser, and the number of part-time home helps employed in 1968 was 1,553. A total of 7,177 households received help during 1968 compared with 6,649 in 1967. This represented 989,268 (approximately) hours of employment compared with approximately 894,000 in 1967.

Even with the undoubted high cost of this service in Cheshire, the county is still slightly below the national average.

In 37 cases night 'sitters-in' were provided (compared with 18 cases in 1967). Night 'sitters-in' may be employed in cases of serious illness, in the absence of a relative or friend reasonably available, for a stated period, not more than 14 days except by approval of the Chairman of the Divisional Health Committee.

The 'good neighbour scheme' is another way of helping. The charges are on the basis of the home help scale of assessment, but the scheme is more informal. It is useful where regular help is difficult to obtain, but there are women prepared to assist with domestic duties to fit in with their own convenience, and not at set hours and times. It is hoped that application of the 'good neighbour scheme' will increase, but it depends on finding the necessary recruits. During 1968 good neighbours were employed in 16 cases.

Loan of Nursing Equipment

The number of items available to the public for loan to persons in special need are many and varied. Stocks of nursing equipment are held by district nurses, and larger items are available on application to Divisional Medical Officers. The service enables many people to manage in their own homes who might otherwise require hospital or other accommodation. Quite apart from the obvious economies resulting, this service provides the means for persons requiring such aids to remain in the atmosphere and amongst the friends they know, and this is in itself a useful form of therapy.

Vaccination

Children between 13 and 14 years of age are eligible for B.C.G. vaccination, as are also those young people above the age of 14 who are either at school or attending universities and other further education establishments.

Although the programme for vaccinating school children represents the main element of the work, known contacts of tuberculous patients are also included without age restriction.

In 1967, 7,770 school children were vaccinated out of 9,185 patients skin tested, and 439 contact cases out of 933 patients skin tested.

The figures for 1968 were:—	Vaccinations	Skin Tests
School children	8862	10396
Contacts	432	982

The computer appointment recording system for vaccination and immunisation continued to expand throughout the county, and at the close of the year nine of the fifteen divisions were operating the system in county clinics, and 149 general practitioners were operating it in their surgeries. Initially the general practitioners were a little cautious, even apprehensive, but they soon appreciated the advantages from an administrative point of view and realised the number of children being immunised, and the greater ease of all operations, especially the time-saving appointments procedure.

It is without doubt that with computer automation more children are afforded the opportunity to be protected against the various infectious diseases, with a resultant increase in the immunity of the child population. The percentage of children throughout the county, born in 1967, and immunised against diphtheria, whooping cough, tetanus and poliomyelitis was 79·27 per cent., an improvement on previous years. It is thought that this figure will be further improved in subsequent years, on the extension of the system throughout the remainder of the county.

With the introduction of measles vaccination, it was possible through the computer system to advise many parents of the availability of this protection for their children. This undoubtedly was a considerable saving in man-hours, and as vaccine becomes available, appointments will be made on the computer system, in the same way as appointments for protection against other infectious diseases.

Health Education

Health education during the year was again undertaken rather spasmodically, and was dependent upon the opportunity and the enthusiasm of individuals. The main event of the year in health education was undoubtedly the appointment and commencement of duty on 1st October of the Department's first Health Education Officer. The county now joins the growing number of county councils and county boroughs which employ Health Education Officers. It is appropriate, therefore, to set out briefly the function of a Health Education Officer.

For many years it has been realised that much ill-health, both physical and mental, can be combated by positive action on the part of the individual and the community in which he lives. However, the action required often involves self-discipline, which does not come without effort. Simple examples are smoking and dietary control. To persuade an individual to adopt a positive attitude to health, and to change his pattern of behaviour accordingly, requires a sustained effort by informed people, whether they are council officials or members of voluntary organisations, over a long period of time. In fact, this time could be counted in years rather than months. Much health improvement will only come about by encouraging our youngsters to adopt health habits which will continue as part of their normal pattern of behaviour in adult life.

If this work is to be effective, all the efforts of individuals playing a part in health education must be co-ordinated, and others who could participate encouraged to do so. The Health Education Officer's function is to plan and organise a health education programme involving medical, dental and nursing staff, teachers and social workers, and to work with voluntary organisations to the same end. His duties include in-service training, providing and advising on visual aids for teaching, formulating health education programmes for various sections of the community, lecturing to a wide variety of groups, and creating and maintaining suitable displays for exhibitions, also keeping in contact with the latest developments in the fields of health teaching and communications and passing the information to the field team. It is necessary for planned studies to be carried out to ascertain what motivates a person to take certain action, and also to evaluate work carried out. This will ensure the effectiveness of money and time spent on health education. Bronchitis, lung cancer, disease of the heart and blood vessels together cause over 244,000 deaths a year. Looking further than a statistic it will be seen that many of them are men in their middle years who had family responsibilities. It means a wife left to support herself and children, and the children themselves lacking a guiding hand perhaps when it is most needed during their passing through adolescence. To stop smoking cigarettes and carrying around excess weight would greatly reduce this loss of life during middle age. In the home needless accidents caused loss of life to the extent of 7,470 in 1966, mainly to old people and young children. A greater awareness of the danger facing one at home can instill in the individual a more conscientious attitude to safety, and this is particularly important when the less-at-risk are caring for the young and elderly. Dental decay may not cause death, but it does cause unnecessary suffering. The community must become aware of the preventive measures available and not just think in terms of treatment. Dental hygiene and raising the level of fluoridation in the water supply would reduce tooth decay by a considerable amount. Venereal disease normally rises to a high level in the community in time of war, but for the first time ever in this country it is reaching similar proportions in peace-time, and what happens is most regrettable to report, it is rising in the youth group. Together with the increase in drug taking, illegitimate births, hooliganism, etc., it indicates a need for health education to help the youngster to develop into a mature person with a responsibility to himself and the community. With the passing of the National Health Service (Family Planning) Act, 1967, local health authorities were empowered to become more involved in the work that the

Family Planning Association had been doing for a number of years. With the knowledge available today on methods of contraception it is right that women should be advised of the services and the help that can be given to plan their families so that the unwanted becomes the wanted child. Although in some minds this service should only be provided for married women, we must accept the fact that pre-marital sex relationship among unmarried couples does occur and no amount of discussion and talk will change a deeply personal feeling affecting two people. It is therefore right that this section of the community should also be informed of the services. Surely this is preferable to a possible illegitimate child which often causes general unhappiness and excessive financial burdens.

Health education can also play a part in educating the community to a greater understanding of the health services. This would eventually reduce the unnecessary visit to the family doctor, and (perhaps more important) the unnecessary call-out.

The purpose of health education is not to cause excessive preoccupation with health, but to make it accepted as something worth achieving. A person healthy in mind and body will not require to think of ill-health at all, as his state of well-being will not make him conscious of it.

Health education has in the past been a service which suffers at times of economic stress, mainly because it is difficult to relate expenditure to actual financial return. Although it should be sufficient to stress the happiness of so many which results from the achievement of a high standard of health, it is appreciated that at times of financial stringency the nation is orientated into thinking in monetary terms, and we may therefore point out that over three hundred million working days are lost annually through sickness, equal to fourteen days for every insured person. Sickness benefits cost £160m. a year. The cost of dental care is over £100m. a year. There is furthermore the great loss of industrial productivity through absence from work.

In closing this report I would like to quote a paragraph from W. J. H. Butterfield's *Priority in Medicine*, the Rock Carling Fellowship monograph for 1968.

> 'To take health education first then, a good deal of lip service is paid to it. It appears as a final paragraph, or a final recommendation, in articles, pamphlets and books. The time must be coming when it deserves a much higher priority, especially when one sees how much chronic ill-health can be attributed, not to infected agents, or occupational or living conditions, but to the affluence we have been seeking.'

News from the Divisions

Mid-Cheshire Division—Dr. F. Seymour, Divisional Medical Officer, writes as follows:—

Cervical Cytology

During 1968 arrangements were made with a local factory to carry out cervical smear tests. With the co-operation of the management who provided a clerk and nurse (after the initial session) this proved to be quite successful, in as much that many of the women who undertook the test would not, I am sure, have bothered to make appointments at a clinic. News spread quickly by word of mouth and encouraged others to attend; a total of 133 patients were examined.

Physically Handicapped—Work Centre

One morning session per week was held and although continuation was dependent on an overflow of work from the Adult Training Centre contracts this proved to be reasonably successful. Payments to members were minimal but the work produced did prove that many members were capable of carrying out work which even they thought was not possible.

We are indebted to the local Salvation Army for providing the facilities at a nominal rental and also for providing volunteers for supervising the group.

It is hoped that the Work Centre will expand to a full day per week during the year and that a greater variety of work will be carried out.

Flight to the Isle of Man

The highlight of the year from the members of the Physically Handicapped Club's point of view was the day trip to the Isle of Man. The idea of the air trip was born when the physically handicapped grand-daughter of the Chairman of Northwich Urban District Council told him how much she had enjoyed her first ever flight to Paris. He immediately set up a fund-raising scheme to provide the necessary cash to enable members of the Highfield Club to undertake the trip to the Isle of Man. Accompanied by several helpers, members spent an energetic day making a planned tour of places of interest with two breaks for meals. A 16mm. film of the trip was made by members of the local Grammar School Film Society as part of the filmed records of the town.

Mentally Handicapped—Social Club

In October a Social Club for 16-year-olds and over was started at the Northwich and District Youth Centre. The Club has a membership of 40 and is jointly organised by the Area Youth Leader and a Mental Welfare Officer.

Playgroup

This is held once a month on a Saturday in the Junior Training Centre and caters for children under five years of age. It is a joint enterprise between the Mid-Cheshire Branch of the National Society for Mentally Handicapped Children and members of the Area Mental Welfare Officer's Staff. Although the numbers attending are relatively small it does provide a very useful opportunity for parents to go shopping, etc.

Teach-in

A series of teach-ins on mental subnormality was held for members of the Divisional Health Committee, the speakers consisting of the Divisional Medical Officer, Assistant County Medical Officer, Area Mental Welfare Officer and the Superintendent and Supervisor of the Adult and Junior Training Centres. These meetings were very much appreciated by the members.

S.W. Cheshire—Dr. W. A. Pollitt, Divisional Medical Officer, writes as follows:—

Warden-Assisted Accommodation Maintained ry District Councils

A course was run by various members of the divisional staff for the benefit of wardens who were employed by the district councils in occommodation for the elderly. The aim and object of the course was to acquaint the wardens of the facilities and services available from the County Health Department, also to create a discussion group in which both the wardens and the personnel taking part in the course could discuss their mutual problems, and in particular the special situation which arose in warden-assisted accommodation.

Talks were given by the Divisional Medical Officer on the general services provided and in a more specific vein by the Home Help Supervisor, District Nurse and Health Visitor.

HEALTH SERVICES STATISTICS 1968

HEALTH SERVICES
STATISTICS 1968

Dental Service

	Children 0—5	Expectant and Nursing Mothers
Visits for treatment	3460	1438
Number of teeth filled	2030	634
Number of teeth extracted	1726	736
Patients given first inspection	2323	451
Number of such patients requiring treatment...	1684	432
Number offered treatment	1631	430

Ante-Natal Clinics and Relaxation Classes

Ante-Natal Clinics				Relaxation Classes
Number Attending for Examination		Number of Sessions held by		
Ante-Natal	Post-Natal	Midwives	Doctors	No. Attending
6219	149	1475	903	5073

Notification of Births

Distribution of births notified under Public Health Act, 1936.

Domiciliary	Private Maternity Homes	Hospital
3393	—	14844

Child Welfare Centres

Number of Children Attending				Number of Sessions held				Number of Children on 'at Risk' Register 31-12-68
Born 1968	Born 1967	Born 1963-66	Total	Medical Officers	Health Visitors	G.P.'s	Total	
15764	13360	14816	43939	1997	148	4806	6951	1664

Day Nurseries (L.H.A.)

Number of Nurseries	Number of Approved Places	Average Daily Attendance	Number on Register 31-12-68
13	574	311	538

Premature Babies

Weight at Birth	Number Born Alive	Died in first 24 hours	Died 1—27 days
2 lb. 3 ozs. or less	43	29	9
Over 2 lb. 3 ozs.	72	22	9
Over 3 lb. 4 ozs.	168	22	13
Over 4 lb. 6 ozs.	236	10	5
Over 4 lb. 15 ozs.	468	7	6
Total	987	90	42

Nurseries and Child Minders Regulation Act, 1948

Number on Register at 31-12-68:—

(a)	Nursery Premises	156
	Places	3722
(b)	Child Minders	84
	Places	1209

Registration of Nursing Homes

	Number of Homes	Beds		
		Maternity	Other	Total
Number on Register at 31-12-68 ...	14	2	611	613

Work of Health Visitors

Category	Number of Cases Visited
Children aged up to five years	83536
Persons aged 65 or over	4899
Mentally disordered persons	410
Persons discharged from hospital (excluding maternity cases and mental hospitals)	850
Number of tuberculous households visited	967
Number of households visited on account of other infectious diseases	343
Other cases	3595

Clinic Centres

	Purpose Built	Adapted	Occupied on Sessional Basis	Total
Number of premises in use 31-12-68	37	25	74	136

Home Help

	Aged 65 or over on First Visit	Aged under 65 on First Visit				
		Chronic Sick	Mentally Disordered	Maternity	Others	Total
Number of cases	5554	479	42	565	545	7177

Mother and Baby Homes

	Prospect House, Hoylake (L.H.A.)		
	Number of cases admitted during year	Number of beds at end of year	Average duration of stay (days)
Ante-natal	32	12	50
Post-natal	—	5	35

Number of cases for which financial responsibility was accepted elsewhere—114.

Work of Home Nurses

Number of Persons Nursed during year	Number of Persons Nursed who were aged (at first visit)	
	Under Five years	65 years and over
17964	326	11235

Work of Midwives

Number of domiciliary confinements attended				Number of hospital confinements discharged before tenth day
Doctor not booked		Doctor booked		
Dr. present	Dr. not present	Dr. present	Dr. not present	
4	29	528	2451	8291

Nursing Services—Staff Employed, 30-9-68

Category	Whole-time	Part-time	W.T. equivalent of P.T.
Health visitor/school nurse	143	—	—
Home nurse	108	85	55
Midewife	81	87	31
Supervisory (home nursing and midwifery)	8	—	—

Tuberculosis Statistics

DEATHS

Pulmonary		Non-Pulmonary	
Number	Rate per 1,000 pop.	Number	Rate per 1,000 pop.
31	·0298	7	·0067

CONTACTS

Number examined of persons notified as tuberculous—1,068.

Cervical Cytology

Number of sessions	Number of new patients	Total attendances	Results of Examinations (a) N.A.D.	(b) For invest.	(c) Number in (b) found positive
928	8525	8777	8339	396	33

Congenital Malformations

During 1968 there were 383 cases notified, as compared with 238 for 1967.

Mental Health

ADMISSIONS TO MENTAL HOSPITALS UNDER MENTAL HEALTH ACT, 1959

s. 5		s. 25		s. 26		s. 29		s. 60		s. 65		s. 135		s. 136		Total	
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
478	701	171	285	45	34	59	59	4	—	—	1	1	—	7	—	765	1080

TRAINING CENTRES FOR THE MENTALLY SUBNORMAL

Number attending 1-1-68	During year Number admitted	Number discharged	Number attending 31-12-68	Number attendances 1968/69
Adult (6)				
476	94	49	516	93341
Junior (6)				
364	77	45	396	62594

In addition, 52 subnormals attended the centres of five voluntary associations for spastics.

ADMISSIONS TO HOSPITALS FOR THE MENTALLY SUBNORMAL

During the year 33 vacancies were found for patients requiring hospital vacancies for subnormality.

NUMBER OF PERSONS UNDER L.H.A. CARE AT 31-12-68

Mentally ill		Elderly mentally	Psychopathic		Subnormal		Severely Subnormal		Total
Under 16	16 and over	infirm	Under 16	16 and over	Under 16	16 and over	Under 16	16 and over	
2	1114	260	—	1	1	670	512	582	3143

STAFF AT 30-9-68

Mental Welfare Officers				
Trainee M.W.O.'s	M.W.O.'s	Area M.W.O.'s	Chief M.W.O.	Total
10	38	9	1	58

TRAINING CENTRES

Supervisory staff				Assistant staff				
For adults		For children		For adults		For children		
Qual.	Other	Qual.	Other	Qual.	Other	Qual.	Other	Total
5	1	6	—	7	33	16	33	101

Vaccination and Immunisation

SMALLPOX VACCINATION

	Under 1 year	1—2 years	2—4 years	5—15 years	Total
Vaccinated	1313	6171	3713	931	12128
Re-vaccinated	—	70	197	495	762
Total	1313	6241	3910	1426	12890

VACCINATION OF PERSONS UNDER AGE 16 COMPLETED DURING 1968

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

Type of vaccine or dose	Year of birth: 1968	1967	1966	1965	1961–1964	Others under age 16	Total
1. Quadruple D.T.P.P.	—	—	—	—	—	—	—
2. Triple D.T.P.	5617	8193	1301	732	910	251	17004
3. Diphtheria/Pertussis	—	—	—	—	—	—	—
4. Diphtheria/Tetanus	16	66	35	52	208	134	511
5. Diphtheria	—	2	—	—	3	12	17
6. Pertussis	—	28	—	18	32	—	78
7. Tetanus	3	40	20	8	101	792	972
8. Poliomyelitis, Salk	—	—	—	1	2	—	3
9. Poliomyelitis, Sabin	5574	8680	1108	390	774	272	16798
10. Measles	72	1932	3934	4066	8455	969	19428
11. Lines 1 + 2 + 3 + 4 + 5 (Diphtheria)	5633	8261	1336	784	1121	397	17532
12. Lines 1 + 2 + 3 + 6 (Whooping Cough)	5617	8221	1301	750	942	251	17082
13. Lines 1 + 2 + 4 + 7 (Tetanus)	5636	8307	1356	792	1219	1177	18487
14. Lines 1 + 8 + 9 (Polio)	5574	8680	1108	391	776	272	16801

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

Type of vaccine or dose	Year of birth: 1968	1967	1966	1965	1961–1964	Others under age 16	Total
1. Quadruple D.T.P.P.	—	—	—	—	—	—	—
2. Triple D.T.P.	315	2823	3693	846	3922	431	12030
3. Diphtheria/Pertussis	—	—	1	—	1	—	2
4. Diphtheria/Tetanus	2	84	228	146	4716	2464	7640
5. Diphtheria	—	—	4	—	48	318	370
6. Pertussis	—	—	—	—	1	—	1
7. Tetanus	1	2	10	13	139	489	654
8. Poliomyelitis, Salk	—	—	—	—	—	—	—
9. Poliomyelitis, Sabin	23	1374	1881	691	8207	1908	14084
10. Measles	—	—	—	—	—	—	—
11. Lines 1 + 2 + 3 + 4 + 5 (Diphtheria)	317	2907	3926	992	8687	3213	20042
12. Lines 1 + 2 + 3 + 6 (Whooping Cough)	315	2823	3694	846	3924	431	12033
13. Lines 1 + 2 + 4 + 7 (Tetanus)	318	2989	3931	1005	8777	3384	20324
14. Lines 1 + 8 + 9 (Polio)	23	1374	1881	691	8207	1908	14084

Homes for Old Persons and Disabled Persons

	Number of Homes: Voluntary Homes	Private Homes	Total
New Registrations, 1968	—	—	—
Registrations cancelled, 1968	—	—	—
Registrations at 31-12-68	18	19	37
Number of residents, 31-12-68	776	136	912

Alterations to Property

During 1968 financial help was given towards the cost of adaptations inside or outside the homes of 204 handicapped persons to enable them to overcome their difficulties.

Car Badges for Severely Disabled Drivers

266 applicants were using these special badges at the end of 1968.

Health Advisory Clinics for Old People

Number of sessions held	Number of new patients	Total number of patients	Total attendance
55	69	246	391

Recuperative Convalescence

During 1968, 173 patients were sent for recuperative convalescence.

Family Planning

During 1968, attendances at family planning clinics held at county clinic centres and at centres in adjacent areas numbered 41,688, and there were 5,169 new cases.

Comparison of various rates with previous years

	1968	1967	1966	1965	1964	1963	1962	1961	1960	1959
Live Birth Rate (per 1,000 population)	17.2	17.7	17.8	18.1	18.6	18.3	18.0	17.4	17.1	16.0
Illegitimate as percentage of total Live Births	6.0	5.9	5.1	4.6	4.4	3.7	4.2	3.6	3.4	3.2
Stillbirth Rate (per 1,000 Live and Still Births)	14.0	15.0	14.6	16.3	15.0	18.1	17.5	19.7	19.3	21.6
Death Rate (per 1,000 population)	11.4	11.3	11.6	11.4	11.3	12.0	12.1	12.2	11.6	12.0
Infant Mortality Rate (deaths under 1 year per 1,000 live births)	18.6	16.3	17.2	18.6	18.1	18.7	23.6	17.6	20.1	23.4
Neo-natal Mortality Rate (deaths under 4 weeks to 1,000 live births)	13.4	10.9	11.7	13.1	12.6	12.3	14.6	12.9	14.5	17.3
Deaths under 1 week to 1,000 live births	11.2	9.6	10.3	11.1	11.0	10.6	12.1	10.8	12.5	14.8
Perinatal Death Rate (still births and deaths under 1 week per 1,000 births live and still)	25.0	24.0	24.8	27.3	25.9	28.6	29.4	30.3	31.6	36.1
Maternity Mortality Rate	0.11	0.11	0.38	0.32	0.22	0.28	0.58	0.18	0.38	0.28

The following Table shows the variation in notifications of the principal Infectious Diseases during the past ten years:—

	1968	1967	1966	1965	1964	1963	1962	1961	1960	1959
Measles	7196	7410	16814	9093	9440	11130	4762	13645	3681	11809
Scarlet Fever ..	377	573	929	623	384	345	386	439	693	1049
Whooping Cough	214	700	317	367	834	522	125	294	1072	729
Poliomyelitis ...	—	1	1	5	2	3	4	18	9	14
Diphtheria ...	—	—	—	—	—	—	—	—	1	—
Smallpox	—	—	—	—	—	—	—	—	—	—
Tuberculosis:—										
Pulmonary ...	80	124	135	150	195	172	234	219	210	230
Non-Pulmonary	13	20	15	21	38	21	33	41	34	26

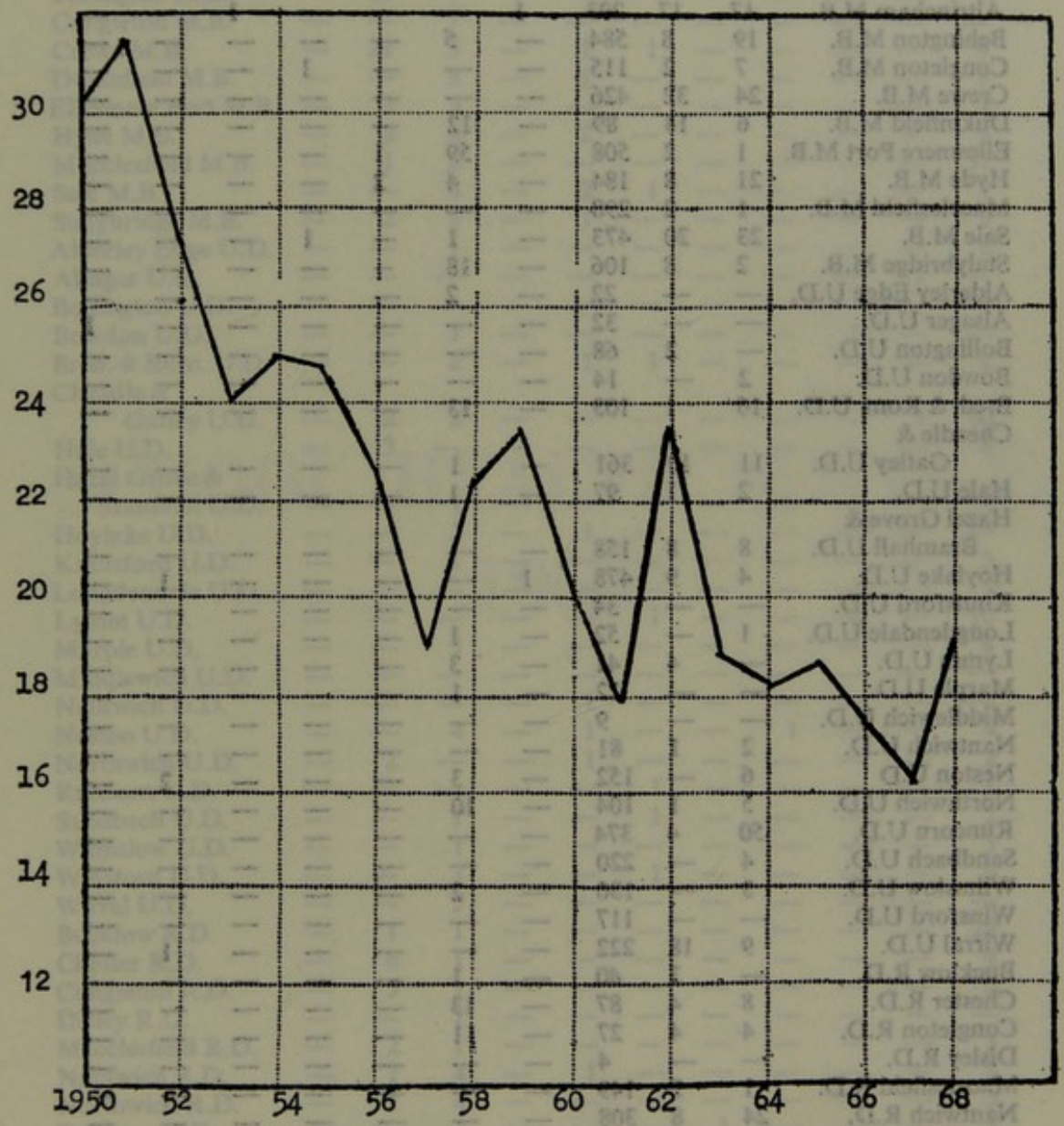
Principal Causes of Death

The table below shows the trend in causes of death at all ages for each of the last ten years:—

		1968	1967	1966	1965	1964	1963	1962	1961	1960	1959
T.B.—Resp.	...	25	31	26	28	33	33	40	44	37	54
Other	...	8	7	3	7	4	2	3	3	7	3
Diphtheria	...	—	—	—	—	—	—	—	—	—	—
Whooping Cough	...	—	1	—	—	1	—	2	1	1	1
Measles	...	4	—	3	—	—	5	—	2	—	2
Malig. Neo.:—											
Stomach	M	139	149	154	146	147	177	158	175	172	177
	F	133	118	117	137	109	114	114	110	145	144
Lung, Bronch.	M	458	454	406	393	416	382	349	350	300	311
	F	99	83	92	70	66	59	57	57	60	52
Breast	...	188	230	213	208	199	214	189	198	167	167
Uterus	...	77	82	79	85	99	95	87	84	91	67
Others	M	585	577	530	523	458	509	480	441	442	462
	F	542	551	502	512	444	454	439	419	476	445
Leukaemia	...	59	54	47	51	62	60	42	42	40	44
Diabetes	...	109	74	77	59	80	79	88	81	65	57
Cerebrovascular	M	730	764	778	713	733	752	712	684	639	711
	F	1157	1075	1126	1081	1010	1079	1081	1097	969	995
Ischaemic heart	M	1662	1570	1500	1544	1424	1339	1285	1261	1233	1075
	F	1122	942	980	971	881	861	851	771	786	641
Influenza	...	76	65	82	5	16	52	86	171	27	90
Pneumonia	...	816	753	671	576	577	701	648	542	466	440
Bronchitis	...	616	614	633	611	561	664	632	539	498	493
Peptic Ulcer	...	83	86	66	73	63	64	81	86	81	91
Nephritis	...	67	47	56	56	64	70	75	60	74	77
Motor Accidents	...	158	177	191	179	160	166	123	168	140	119
Other Accidents	...	159	183	174	154	184	194	188	186	172	191
Suicide	M	42	43	45	48	51	59	65	69	45	52
	F	32	38	44	37	40	43	49	48	42	37

Infantile Mortality

Graph showing rate per 1,000 live births since 1949.

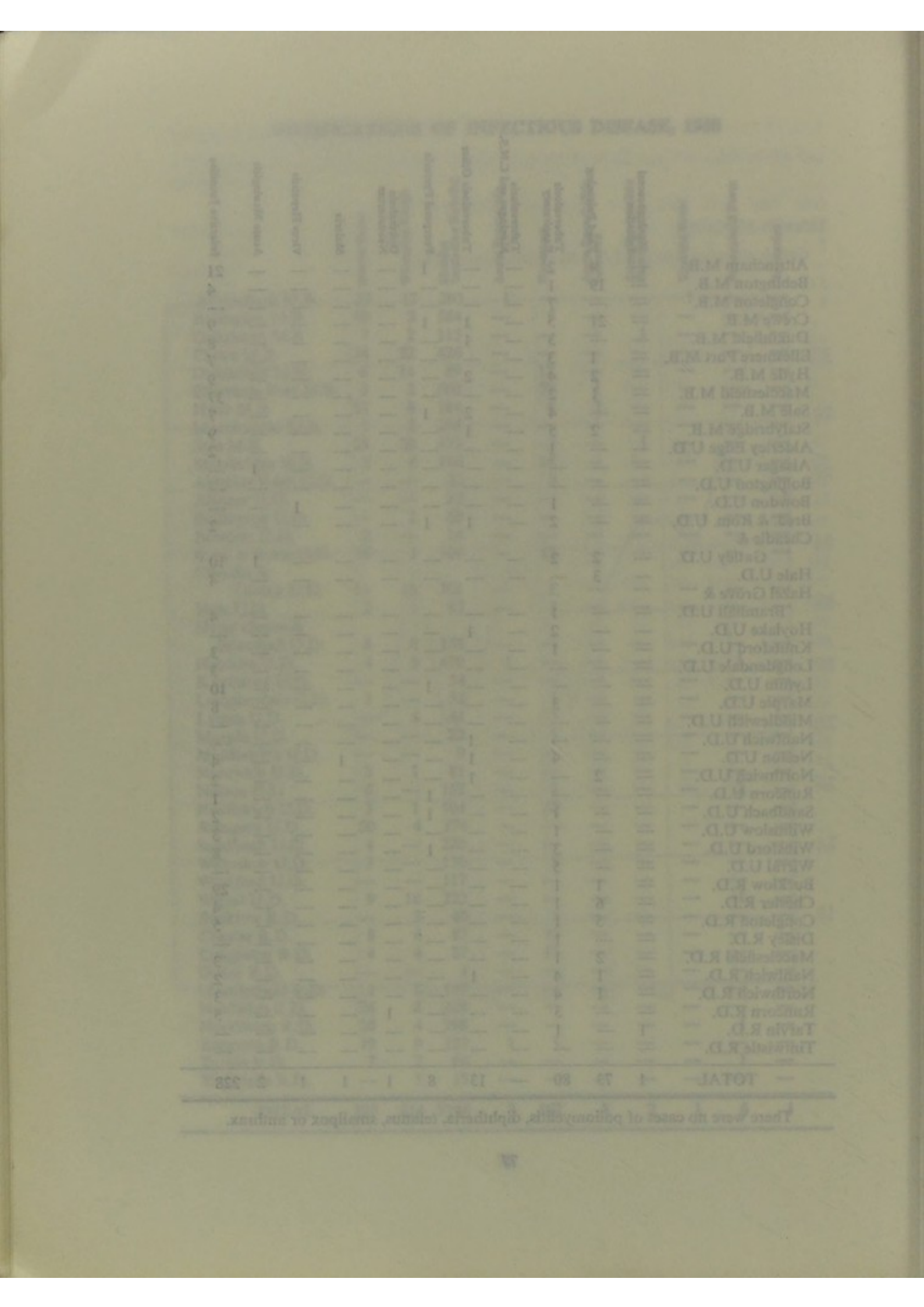


NOTIFICATIONS OF INFECTIOUS DISEASE, 1968

	Scarlet Fever	Whooping Cough	Measles (excluding Rubella)	Acute Pneumonia	Dysentery	Acute Encephalitis Infective	Acute Encephalitis Post-Infective	Typhoid Fever	Paratyphoid Fever	Erysipelas
Altrincham M.B.	17	17	293	1	—	—	—	1	—	—
Bebington M.B.	19	8	584	—	5	—	—	—	—	—
Congleton M.B.	7	2	115	—	—	—	1	—	—	—
Crewe M.B.	24	32	426	—	—	—	—	—	—	—
Dukinfield M.B.	6	14	89	—	12	—	—	—	—	—
Ellesmere Port M.B.	1	2	508	—	59	1	—	—	—	—
Hyde M.B.	21	8	184	—	4	2	—	—	—	—
Macclesfield M.B.	1	2	298	—	—	—	—	—	—	—
Sale M.B.	23	20	473	—	1	—	1	—	—	—
Stalybridge M.B.	2	8	106	—	18	—	—	—	—	—
Alderley Edge U.D.	—	—	22	—	2	—	—	—	—	—
Alsager U.D.	—	—	32	—	—	—	—	—	—	1
Bollington U.D.	—	2	68	—	—	—	—	—	—	—
Bowdon U.D.	2	—	14	—	—	—	—	—	—	—
Bred. & Rom. U.D.	16	1	103	—	13	—	—	—	—	—
Cheadle & Gatley U.D.	11	10	361	—	1	—	—	—	—	—
Hale U.D.	2	1	97	—	1	—	—	—	—	—
Hazel Grove & Bramhall U.D.	8	8	158	—	—	—	—	—	—	—
Hoylake U.D.	4	9	478	1	—	—	—	—	1	—
Knutsford U.D.	—	—	34	—	—	—	—	—	—	—
Longdendale U.D.	1	—	52	—	1	—	—	—	—	—
Lymm U.D.	—	4	41	—	3	—	—	—	—	—
Marple U.D.	—	—	22	—	1	—	—	—	—	—
Middlewich U.D.	—	—	9	—	—	—	—	—	—	—
Nantwich U.D.	2	1	81	—	—	—	—	—	—	—
Neston U.D	6	—	152	—	3	—	—	—	2	—
Northwich U.D.	5	1	104	—	10	—	—	—	—	—
Runcorn U.D.	50	4	374	—	—	—	—	—	—	—
Sandbach U.D.	4	—	220	—	—	—	—	—	—	—
Wilmslow U.D.	3	—	130	—	2	—	—	—	—	—
Winsford U.D.	—	—	117	—	—	—	—	—	—	—
Wirral U.D.	9	18	222	—	—	—	—	—	1	—
Bucklow R.D.	—	3	40	—	1	—	—	—	—	—
Chester R.D.	8	4	87	—	13	—	—	—	—	—
Congleton R.D.	4	4	27	—	11	—	—	—	—	—
Disley R.D.	—	—	4	—	—	—	—	—	—	—
Macclesfield R.D.	1	2	149	—	—	—	—	—	—	—
Nantwich R.D.	24	8	308	—	—	—	—	—	—	—
Northwich R.D.	20	4	398	—	—	—	—	—	1	—
Runcorn R.D.	19	9	137	1	1	—	—	—	—	—
Tarvin R.D.	7	7	64	—	—	—	—	—	1	—
Tintwistle R.D.	—	1	15	—	—	—	—	—	—	—
TOTAL	327	214	7196	3	162	3	2	1	6	1

	Meningococcal Infection	Food Poisoning	Tuberculosis Respiratory	Tuberculosis Meninges and C.N.S.	Tuberculosis Other	Puerperal Pyrexia	Ophthalmia Neonatorum	Malaria	Virus Hepatitis	Acute Meningitis	Infective Jaundice
Altrincham M.B.	—	4	2	—	—	1	—	—	—	—	21
Bebington M.B.	—	19	1	—	—	—	—	—	—	—	4
Congleton M.B.	—	—	7	—	—	—	—	—	—	—	—
Crewe M.B.	—	21	5	—	1	1	—	—	—	—	9
Dukinfield M.B.	—	—	3	—	1	—	—	—	—	—	8
Ellesmere Port M.B.	—	1	3	—	—	—	—	—	—	—	7
Hyde M.B.	—	2	4	—	2	—	—	—	—	—	9
Macclesfield M.B.	—	1	2	—	—	—	—	—	—	—	37
Sale M.B.	—	—	4	—	2	1	—	—	—	—	7
Stalybridge M.B.	—	2	5	—	1	—	—	—	—	—	9
Alderley Edge U.D.	—	—	1	—	—	—	—	—	—	—	2
Alsager U.D.	—	—	—	—	—	—	—	—	—	1	—
Bollington U.D.	—	—	—	—	—	—	—	—	—	—	—
Bowdon U.D.	—	—	1	—	—	—	—	—	1	—	—
Bred. & Rom. U.D.	—	—	2	—	1	1	—	—	—	—	2
Cheadle & Gatley U.D.	—	2	2	—	—	—	—	—	—	1	10
Hale U.D.	—	3	—	—	—	—	—	—	—	—	4
Hazel Grove & Bramhall U.D.	—	—	1	—	—	—	—	—	—	—	4
Hoylake U.D.	—	—	2	—	1	—	—	—	—	—	—
Knutsford U.D.	—	—	1	—	—	—	—	—	—	—	3
Longdendale U.D.	—	—	—	—	—	—	—	—	—	—	3
Lymm U.D.	—	—	—	—	—	1	—	—	—	—	10
Marple U.D.	—	—	3	—	—	—	—	—	—	—	8
Middlewich U.D.	—	—	—	—	—	—	—	—	—	—	—
Nantwich U.D.	—	—	—	—	1	—	—	—	—	—	—
Neston U.D.	—	—	4	—	1	—	—	1	—	—	4
Northwich U.D.	—	2	—	—	1	—	—	—	—	—	2
Runcorn U.D.	—	—	—	—	—	1	—	—	—	—	1
Sandbach U.D.	—	—	1	—	—	1	—	—	—	—	2
Wilmslow U.D.	—	—	1	—	—	—	—	—	—	—	3
Winsford U.D.	—	—	3	—	—	1	—	—	—	—	8
Wirral U.D.	—	—	5	—	—	—	—	—	—	—	—
Bucklow R.D.	—	1	1	—	—	—	—	—	—	—	29
Chester R.D.	—	6	1	—	—	—	—	—	—	—	4
Congleton R.D.	—	5	1	—	—	—	—	—	—	—	5
Disley R.D.	—	—	1	—	—	—	—	—	—	—	—
Macclesfield R.D.	—	2	1	—	—	—	—	—	—	—	3
Nantwich R.D.	—	1	4	—	1	—	—	—	—	—	2
Northwich R.D.	—	1	4	—	—	—	—	—	—	—	3
Runcorn R.D.	—	—	3	—	—	—	1	—	—	—	5
Tarvin R.D.	1	—	1	—	—	—	—	—	—	—	—
Tintwistle R.D.	—	—	—	—	—	—	—	—	—	—	—
TOTAL	1	73	80	—	13	8	1	1	1	2	228

There were no cases of poliomyelitis, diphtheria, tetanus, smallpox or anthrax.



SCHOOL HEALTH SERVICE
1968

SCHOOL HEALTH SERVICE
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INTRODUCTION

Madam Chairman, Ladies and Gentlemen,

I present herewith the Annual Report of the School Health Service for the year 1968, which as previously indicated, reflects the work carried out during that calendar year.

The general review of the management structure of the Health Department was completed in April of 1968, and implementation of the report, including the part relating to the School Health Service, was completed during that year.

In September the new routine of School Medical Inspection was carried out in three trial areas, Sale and parts of Crewe and the Wirral. This new routine is linked with the changes taking place at the Child Health Centres in line with the recommendations contained in the Sheldon Report. Pre-School examinations at a clinic centre culminate in an examination of each child by appointment, at the same clinic centre, at the age of 4½ years. This examination includes an appreciation of the child's previous history, and as the examination takes place at the clinic centre, the records are in the normal course readily available. The notes are then sent to the school to which the child is admitted. Children who fail to attend pre-school examination are seen as soon as possible after admission to the infant school. After admission, medical examinations take place on a selective basis, that is, of children who are brought forward by the teaching staff or the school nurse, or who for some other reason need a medical examination. Linked with this new routine has been the appointment of audiology technicians/vision testers. By the end of 1968, three had been appointed; they had had special training in the use of essential apparatus, and have the task of screening school children for defects of hearing and visual acuity.

The Child Guidance Service has made considerable strides. The aim is to produce a fully-staffed service to work in unison with the Education Department, the Children's Department, the hospital and the family doctor. Regular meetings between the three County Departments involved are now being held in various parts of the County. During the year one psychiatrist completed a period of special training in work with children. A second psychiatrist was later appointed and arrangements for her to attend a similar course at Alder Hey Hospital have been made. These two appointments, together with sessions provided by the Regional Hospital Boards, will go a long way towards providing psychiatric cover for the whole county. We had at the end of 1968 a full establishment of psychologists. Psychiatric Social Workers still proved extremely difficult to recruit, but during the year arrangements were made with Keele University for a joint training scheme. This scheme is at present, however, held up pending the appointment of a suitable course tutor.

The dental service saw the retirement of Mr. Hely after 39 years' service with the County Council, 11 years as Principal Dental Officer. Mr. Hely will be remembered with affection and respect by all who knew him in the service of the County Council. He was succeeded by Mr. T. B. Dowell, who will doubtless be making a number of suggestions when he has become fully familiar with the county. The service has reached such a size that it is necessary to revise the administrative structure. The county is to be divided into five areas, each with an area dental officer taking responsibility for local organisation.

The recruitment of medical officers has been only fairly satisfactory. Certain junior medical posts are continuing to be very difficult to fill, and there have been serious gaps in staffing in certain areas.

During the year two whole-time Assistant County Medical Officers and one Dental Officer left the service of the County Council, while one whole-time and two part-time Medical Officers and three whole-time and two part-time Dental Officers were recruited.

As one problem is solved others tend to arise. At the present time the Education Committee is busily engaged in making plans for children suffering from Autism and Spina bifida. The latter will, of course, have provision made for it in relation to that for other physically handicapped children. Its incidence has risen steeply as a direct result of the evolution and improvement of a surgical technique for dealing soon after birth with children suffering from it. In past years such children would, for the most part, have died. It is intended to provide special school places for children who need them, and in addition it is intended to employ nursery assistants in certain ordinary schools to deal with the special problems affecting such children.

The Education Committee has adopted a comprehensive programme to provide special education. At Clatterbridge Hospital there is a school mainly for cerebral palsy, and at Picton House, Sale (National Spastics Society) the Education Committee has agreed to staff and maintain a school for the physically handicapped, including spina bifida. There are also approximately 25 special classes at schools throughout the county. A unit at Neston is expected to open during 1969 for autistic and non-communicating children, and plans are in hand for a residential school for maladjusted children. Later developments will include two day special schools for educationally subnormal children, a day special school for physically handicapped children and many more special classes.

The year has seen the appointment for the first time of a Health Education Officer within the department, Mr. R. W. Rossington, whose work for children of school age will undoubtedly prove of great value, and is referred to elsewhere in this Report.

I wish to record my appreciation of the co-operation and help received from the Director of Education and his administrative staff, and from head teachers and their staffs. I would also like to thank the Chairman and Members of the Education Committee, and particularly of the Special Services Sub-Committee, for the help and support they have given at all times. My thanks are also due to Dr. Irene Chesham for her loyalty and devotion to the cause of the School Health Service.

B. G. GRETTON-WATSON,
Principal School Medical Officer.

May, 1969.

GENERAL

(from Dr. I. Chesham)

Since improvements in services provided must depend to a large extent on the skills of the staff carrying out such services, it is gratifying that in many spheres there has been in this year a slow but steady growth in recruitment. However, there are two notable areas of difficulty, one in obtaining full-time or even part-time Medical Officers in certain areas of the County; and the second the recruitment of Speech Therapists. Their work is invaluable, and the scope is continually increasing, but there remains a national shortage which presumably results from the present unsatisfactory career structure in this profession.

Speech Therapy

The appointment of a Senior Speech Therapist, Mrs. Eaton, who has worked in the County for many years, is proving of great benefit in the co-ordination of administrative aspects of the service, advice on refresher courses, assistance to the younger recruits to the service, and in the determination of future needs. An account of a typical day in the life of a speech therapist, received from Mrs. Eaton, is given later in this section.

The special class for autistic and non-communicating children which is to be started in 1969 will require a considerable degree of assistance from an experienced speech therapist.

Child Guidance

The Child Guidance Service has seen a slow but satisfactory expansion. The policy of recruiting psychologists who are seconded for further training on the one-year postgraduate diploma course in Educational Psychology has paid dividends, and it is satisfactory to record that the County is up to establishment in this service. The appointment of two Senior psychologists has been of considerable benefit in providing assistance to the less experienced recruits; and it is hoped they will be able to play a considerable part in the difficult problems of assessment in such categories of handicaps as deafness, blindness, severe subnormality and cerebral palsy, as well as continuing their more traditional role within the Child Guidance Service. Some more detailed comments, by Dr. H. Craig, County Psychologist, are given later.

The two new Psychiatrists, Dr. Lanceley and Dr. Keevil, have shown a most commendable enthusiasm in increasing the extent of their work, and in co-operating with other professions in so doing; both have instituted the extended case conference procedure, discussed in last year's annual report. This extended case conference procedure has also been operating satisfactorily in the Ellesmere Port area, where the further experiment of attaching a School Medical Officer to the team for one session each week appears to be working well.

The recruitment of social workers for the Child Guidance teams has been slow, though there were slight indications of improvement towards the end of the year. It is hoped that the agreed co-operation with Keele University in the training of students for social work may prove fruitful for both the University and the County.

Audiology

The audiological service has seen one particular development of interest, namely the secondment of an experienced and able School Medical Officer to the one-year Diploma in Audiology course held at the Department of Audiology, Manchester. Her additional training and qualification should help to improve the service given to the community, and to render the County less dependent on the University for some of these services. The specialised equipment for the Chester Clinic (already agreed by

the Committee) will be available for her use, and she will be able to train the peripatetic teachers of the deaf in some of the more advanced audiological testing techniques.

Health Education

The appointment of a Health Education Officer is proving most satisfactory. His activities, necessarily, will have to be mainly in the direction of co-ordinating and stimulating work already being carried out in the County, and of extending the range and depth of this work.

School Medical Officers

Five school medical officers were promoted to Senior Assistant rank, three being full-time staff and two part-time. One medical officer is providing assistance to the Divisional Medical Officer for the combined area of Sale and Altrincham. The other Medical Officers have been given special assignments in the field of handicapped children, and one in Occupational Health, in which she has had considerable experience. It has not yet proved possible to recruit a Senior Assistant Medical Officer to provide assistance to the Divisional Medical Officer in the combined area of Runcorn and Mid-Cheshire.

Selective School Medical Inspection

Three experimental areas were chosen for a system of selective school medical inspection. The scheme is for children to be examined in clinics at the age of 4.6—4.9 years, i.e. prior to school entry; a full examination, including vision testing (and hearing testing if indicated) is carried out. Subsequently, the child is reviewed in school the following term, or his case discussed with the Headteacher. No further full inspection is carried out, unless a defect is found, of the parent or Headteacher is concerned. Audiometric testing of hearing will be carried out by technicians in the child's first year at school, and these technicians, using the Keystone Vision Screener, will test the vision of seven year old children. This system of selective school inspection should enable more time to be spent on children with difficulties, and for discussion with Headteachers on the educational importance of any handicaps or defect found, and avoid the time-consuming monotony of examining large numbers of healthy children. It should serve to improve the service given, and the effectiveness of medical man-power usage. If the scheme proves acceptable to Headteachers (there seems every evidence so far that it is) it will be extended to other parts of the County. It will be necessary, of course, for vision to be checked at regular intervals throughout the child's school life, either by trained technicians (the use of the Keystone Screener being invaluable here) by school nurses or the doctors themselves. It is essential for the success of a selective school inspection system that there should be frequent meetings and a cordial relationship between the school medical officer and the Headteacher—but this is true of the school health service in any form.

One senior assistant medical officer was seconded on the six-week developmental Paediatric course, and a second will be sent in 1969. The course is becoming recognised as essential for clinical workers in the school health service, the emphasis being on the need for early and skilled assessment of handicaps and defects in young children, so that appropriate arrangements for educational placement san be made.

There is no doubt that there will be plenty of scope for many years to come for skilled and enthusiastic school medical officers, provided they adapt to new ideas and methods, so that one hopes the present recruitment difficulties will not be permanent.

SPEECH THERAPY—HOW THE SERVICE WORKS

(from Mrs. R. Eaton, Senior Speech Therapist)

The first child P., has a stammer. It is responding to treatment slowly; there is a familial history of the defect, but the natural anxiety of the mother is countered by parential interest and co-operation. Today we are working on 'situation' response, i.e. taking a situation in which P. finds difficulty, and practising slow relaxed speech. The 30 minute session begins and ends with a few minutes 'social' conversation.

S. the next patient, has a gross articulatory disorder. He can hear and understand spoken language, but is unable to put sounds together to make intelligible speech. His normal intelligence creates frustration at this inability for self-expression, and slow patient work in the clinic needs constant daily reinforcement at home, which in turn necessitates counselling of parents.

This latter is often harder work than direct therapy with the child.

The next two children are reviews—they have received therapy but mother's illness has prevented attendance for five months. The boy J. has improved, but his sister T. still has a gross articulatory disorder. In this family, the father is reluctant to acknowledge any problem, his attitude being that they will grow out of it. J. is an intelligent child, reading well, but as he is unable to produce even a monosyllabic word ending in a consonant correctly, it is necessary to convince the parents of the need for regular attendance and daily practice at home.

B. is an immature child; the parents are over-anxious but rather than that their anxiety should be projected on to the child and create further difficulties, he is attending for short sessions, with a little play/language incorporated, to re-assure them that some positive measure of help is in progress.

M. is having some resonance problems, after removal of adenoids. Previously there has been insufficient nasal resonance, now there is too much, and exercises and encouragement are needed, in order to improve the soft palate movement.

L. seems to have difficulty in distinguishing between high frequency sounds, and auditory discrimination practice is needed in the clinic. The audiologists have already confirmed that no deafness is present now, although there may have been some difficulty previously, due to intermittent catarrh and sinusitis. L. enjoys the games into which this practice is incorporated.

R., a review, now has normal speech and can be discharged. A 'phone call to school ensures that any return of the stammer will be notified.

Three children—C., M. and J.—are next. C. is a shy withdrawn child, whose teachers report that she does not participate in school. There is a family history of stammer, on both sides, and C. is beginning to express herself very clearly in a controlled play group in the clinic. J. comes from a disordered background; he is with a foster mother daily, and it is mainly her stimulation and help that are producing what little language he has. M. has a broken home and there are gross articulatory and expressive defects, probably only two or three new words are learnt every week, and these largely through reinforcement of clinic work by the school.

Two reviews next, one for an 'S' defect, very common during the transition period from first to second dentition. The other child has been substituting W for L, but having learnt the correct sound is now using it well in speech.

Finally a stammer—responding slowly but surely to exercises suited to the patient's needs.

There are the inevitable interruptions—phone calls from schools, a hospital, and other allied school health services, either seeking or giving information. There are

letters to be sent about school progress, homes and schools to be visited, to maintain contact with homes when parents do not attend with their children and the teachers are carrying out some of the weekly practice work.

Each day varies in detail, but the aim is always the same—to help children to communicate satisfactorily in their environment.

OPHTHALMIC SERVICE

(from Dr. A. Holmes-Smith)

The continuing influx of new residents into Cheshire has caused problems of opthalmological staffing in certain areas but steps have been taken to overcome the initial delay in examining children which this may cause.

The general examination of the sight of schoolchildren has been aided by the use of the vision testers to which reference was made in 1966. These have proved helpful, although the method tends to throw up more suspected cases of defective vision than does the ordinary test card. An increase in the number of instruments in use is expected in the coming year.

The association of certain congenital eye defects with biochemical abnormalities such as homocystinuria has become clear recently and underlines the value of the co-ordination of the infant welfare and ophthalmic clinics and the register of infants 'at risk'.

Arrangements for the orthoptic examination and treatment of children with squint and of their operative treatment continue on a satisfactory basis.

There has been an increase in the routine work of the ophthalmic clinics, even if there are no unusual aspects to report. The correction of refractive errors and squint may appear to be monotonous work but, to the individual patient who is troubled with either of these conditions, correct treatment may mean release from a personal and educational fetter, and result in sudden progress to the delight of both parent and patient.

The help given by health visitors and clinic nurses in the management of ophthalmic patients should not pass unnoticed.

CEREBRAL PALSY

The cerebral palsy peripatetic team of a physiotherapist and an occupational therapist continues to operate at clinic centres at Cheadle, Congleton, Crewe, Macclesfield and Weaverham, and approximately once a month at each clinic Dr. J. D. Allan, the Consultant Paediatrician, attends. The team has the services of a Medical Officer specially trained in the ascertainment of intelligence in physically handicapped children. Attendances at the clinics for treatment are usually once or twice weekly by each child. Twice a year a special meeting is held of all officers concerned to review all cases attending the clinics.

CHILD GUIDANCE SERVICE

(from Dr. Hugh Craig)

I have pleasure in making a few comments on the Child Guidance Service, which may now be described as viable, and I hope useful. As this note will represent my last contribution to the Annual Report, I think it may be acceptable if I cast my mind over the past twenty years with a view to seeing how the Service has progressed during that period.

When I was appointed as Senior School Medical Officer in 1948, Child Guidance appeared to be one of the weak spots in the provision for handicapped pupils; in fact I think it would be true to say that there was no Child Guidance Service at that date. I expected to be concerned with the investigation of the various groups of handi-

capped children, but as time went on, not only were an increasing number of children being referred by education, school doctors and general practitioners, but with the operation of the Children Acts a further demand was made for a large number of children under the Children's Department who are obviously disturbed or presenting difficult behaviour. The Criminal Justice Act of 1948 also led to demands by Magistrates from the Juvenile Courts and Probation Officers. While one did one's best to cope with the problem, which was becoming a very large one, two circulars were issued by the Ministers of Education and Health, which really enabled us to develop the work both in the Wirral area, and in these early days at Handforth. From that small beginning of two Child Guidance teams we now have an establishment potentially of four psychiatrists, eight psychologists and 12 psychiatric social workers. One is therefore in a position to expect a more adequate and a more competent Service in terms of the school population of Cheshire.

There are two further points I should like to make concerning the future of the Service. First, it is becoming increasingly obvious to all involved with the needs of these children that many tend to fall between the various agencies concerned with meeting those needs. I am thinking particularly of those children for whom therapy at Child Guidance level is not enough, but for various reasons they would not be suitably placed in schools for maladjusted pupils. To place them in a hospital, even when this is possible, does not always seem to meet the problem completely, because in view of the pressure for beds it is seldom that a disturbed child in a psychiatric bed can remain there longer than it takes to complete the investigation. I had hoped that before completing my period of service with Cheshire, there would be some provision which would enable these children to have a longer period of observation with a view to making a more satisfactory resolution of their difficulties.

The second provision I feel is concerned with remedial therapy for those children with specific educational disabilities. I am thinking again particularly of the large number of disturbed children who have difficulty in learning to read. No Child Guidance Service can be considered adequate unless some skilled provision becomes available for these children in the School Psychological or Child Guidance Service. Up to the present I do not consider that adequate progress has been made in solving this problem.

I would close these remarks by again expressing a sincere thanks not only to the two County Medical Officers under whom I have worked but also to the members of the various Child Guidance teams who have supported me so loyally during my period of office.

PAEDIATRIC SERVICE

(from Dr. J. D. Allan)

The three consultative paediatric clinics—two at Crewe and one at Northwich—have continued as before. I am pleased to say that general practitioners are making increased use of the service. Children requiring full investigation are admitted to West Park Hospital, Macclesfield, but routine investigation can be carried out at the local Crewe and Northwich hospitals, thus saving parents much travelling time and cost, and avoiding undue call on the ambulance service.

The peripatetic cerebral palsy team holds clinics at Cheadle, Congleton, Crewe, Macclesfield and Weaverham. They are much appreciated by parents and attendance continues to be high. Early diagnosis and calibration of disability are of the first importance, in order that treatment may begin as early as possible in the child's life.

Probably the most difficult category of child to place is the psychologically maladjusted. It is easy enough to secure reports and to make recommendations, but quite a different matter to ensure that these are carried out. The care of the autistic child now calls for special consideration. There are problems in diagnosis, in numbers

and (once again) in the method of treatment and disposal. The difficulty will soon call for a more radical solution than has hitherto been possible.

The school medical officers have helped as before to provide the wealth of material which passes through my unit at Macclesfield. The ward rounds they attend are most useful and continue to be well attended.

EAR, NOSE AND THROAT SERVICE

(from Dr. O. F. Taylor)

During the last twelve months attendances at the Cheshire County E.N.T. Clinics have been maintained at a satisfactory level. The usual children's illnesses in the speciality have presented, with deafness and chronically infected tonsils predominating. Of some interest, perhaps is the fact that foreign bodies in the nose, and epistaxes, appear to have been in larger number than I can remember before.

The waiting list for E.N.T. operations is still very lengthy. One cheering fact however, has been the reduction in the waiting-time for the operation of T. and A. at Crewe Memorial Hospital. This is due to a number of factors, in particular the increase in the number of operations performed, and possibly the more conservative listing of such cases.

The problem of secteting otitis media is still ever-present but in view of a present attempt to arrange fairly large numbers of these cases statistically, some progress may have been made to unravel the obscure aetiology.

SCHOOL DENTAL SERVICE

(from T. B. Dowell, Principal Dental Officer)

Introduction

The purpose of the School Dental Service is 'to ensure that, as far as possible, through dental health education and a high standard of dental care, children shall leave school free from dental disease and irregularity, with an understanding of the importance of good natural teeth, and zealous in looking after them.' *(The Health of the School Child, 1962/63).* Although this statement of the objectives of the service is generally accepted, there have been few attempts to evaluate the extent to which these aims are achieved. In view of the impending reorganisation of the Health Services this is clearly the time to take a fresh look at the way in which the dental needs of the community, and the school population in particular, are being met.

Unfortunately the records of the general dental services are collected in such a way that it is not possible to discover how many patients are treated, and estimates of the number of children treated by general practitioners vary widely. The majority of epidemiological surveys suggest that fully half the dental disease in children remains untreated and the total need for treatment may be twice the actual demand.

The dental awareness of the community is increasing and the demand for treatment is likely to extend to an extent which cannot be satisfied by the dental manpower of the country. As more school leavers and young adults seek regular treatment, a reduction in the time spent by general practitioners on the treatment of young children can be expected.

Under these circumstances it is essential that an efficient public service is developed to maintain and improve the dental health of the child population. The effectiveness of the service must be examined with care. Education Authorities have an obligation to carry out dental inspections of school children annually, but it is doubtful whether this programme is the most effective method of achieving the declared aims of the service. Examination once a year, which is not achieved in every area, is not frequent

enough to ensure comprehensive care of the individual patient and those children receiving four or six-monthly inspections and treatment do not benefit. The conditions under which school inspections have to be carried out do not allow any conclusions of an epidemiological nature to be drawn. Little is known about the effectiveness of methods of treatment and such routine procedures as the conservation of deciduous teeth are, in the public health sense, of unknown value. The lack of programmes of preventive dentistry is startling. The future development of the public dental services must receive an objective and radical examination, and the present mood of change provides an opportunity which must not be missed.

Annual Returns

During 1968, 73 per cent. of the school population was inspected, and of these 51·5 per cent. were recorded as requiring treatment. This is a surprisingly low figure in view of the results of surveys which indicate that 80 per cent. or more have untreated dental defects.

The ratio of permanent teeth filled/extracted is 5·4/1. This is an indication of the pattern of treatment and although this ratio does not differ greatly from the national average it is very low when compared with that achieved in the public service in, for example, Scandinavia, where the ratio is, in some areas, as high as 20/1.

Only 22 per cent. of the patients treated received a prophylaxis and this aspect of treatment could benefit from further attention.

Staffing

Mr. A. F. Hely retired as Principal Dental Officer in May after many years of loyal and distinguished service. He was liked and admired by the staff and I would like to record my gratitude to him for the helpful way in which he welcomed me.

The staffing position continues to improve and at 31st December there were 45 individual dental officers making a full-time equivalent of 36·3 which is an increase of 2·1 during the year. There are welcome signs of an increasing tendency for young dental surgeons to seek a career in the public service. Techniques are continually changing and there is a need for a programme of postgraduate training. A study session on general anaesthesia has been held and courses in radiology, orthodontics and preventive dentistry are being planned. Two dental officers have been seconded to courses leading to the Diploma in Dental Public Health and they will have a big contribution to make then they return.

Preventive Dentistry

The most important measure in this field is fluoridation of the water supply and it is disappointing that Cheshire has not agreed to proceed with this when Authorities covering two-thirds of the population of the country have decided in favour. A further report from the study areas is awaited.

Fluoride may be applied topically. This method is not as effective as fluoridation of the water supply and is far too time-consuming and expensive to be used for the whole population, but it has a place in the treatment of selected cases. A programme of topical application is being planned for certain 'At Risk' patients, mainly the handicapped.

Dental Health Education is an important part of the work of the service and the appointment of Mr. R. W. Rossington as Health Education Officer in October has been an enormous help. In view of the poor results of previous traditional campaigns, an attempt is being made to introduce a health education programme into the schools so that the right attitudes are part of everyday school life. It is difficult to see how this can be done in a school which sells cariogenic foods to the children, and the tuck-shop problem is receiving urgent attention.

Rural Areas

There has always been difficulty in providing a satisfactory service for children who live at a distance from a clinic, and many have been treated in school cloak-rooms and village halls. This practice has been dis-continued; a mobile dental caravan is to be obtained which will enable comprehensive dental care to be brought to children in the rural areas.

Orthodontics

A specialist orthodontic service is an important part of any dental programme for children. Consultant sessions have been held for some years in Sale, and during the year three further orthodontists have started working sessionally in various parts of the County. They provide treatment for the more complicated cases and are available for advice to dental officers undertaking the treatment of the routine cases. This service will be extended to cover the whole county as soon as suitable staff and surgery accommodation are available.

Conclusion

This report is in many ways highly critical, but an objective self-criticism is necessary at this stage if the dental service is to advance. There is every indication that a progressive, possibly even unorthodox, child dental service is urgently required and that the opportunity now exists for the development of such a service.

B.C.G. VACCINATION

Under the County Health Committee's Care and After Care Scheme, B.C.G. vaccination can be offered to school children of 13 years of age and upwards and students attending Universities, Colleges of Education, or other establishments of further education.

With the co-operation of the teaching staff the following work was carried out by Divisional Medical Officers in 1968.

School Children Scheme

Number of consent forms issued	13434
Number of consents received	11417

Skin Tests

Number tested	10396
Number positive	1072
Number negative	8899
Number vaccinated with B.C.G.	8862

YOUTH EMPLOYMENT SERVICE

Liaison meetings are held regularly throughout the county to assist the placing of school leavers in employment. The appropriate Youth Employment Officers, School Medical Officers and Senior School Medical Officers attend, and also Divisional Medical Officers, Head Teachers, Child Care Officers and representatives of voluntary societies where this is indicated. Any child whose employment or after-care may constitute a problem is discussed; the meetings are invaluable for promoting good working relationships and understanding, and also the most efficient and beneficial outcome possible for the child.

SPECIAL SCHOOLS

(County Education Committee)

Grappenhall Hall School

This School has 100 places for educationally sub-normal boys, generally within the I.Q. range of 55-75 aged 8—16 years, who suffer from additional difficulties such as poor environment, maladjustment or delinquent tendencies.

The progress of the boys is kept under constant review and those who prove to be unsuitable for education are excluded. At the other end of the scale a watch is constantly kept for the boy who makes exceptionally good progress which may justify his re-entry to an ordinary school. As a result of this constant review, there is an indication that the majority of boys remaining at the School to the age of 16 years will be able to take up ordinary employment.

The School was fully occupied all year, during which there were 18 new admissions taking the places of children discharged.

One of the County Speech Therapists paid visits to the school during the year to help pupils with speech defects.

The School Dental Surgeon visited regularly and carried out any treatment necessary.

Capenhurst Grange School

There are 38 places for girls at this School, which accepts the same type of child and is conducted on the same general lines as the Grappenhall Hall School. These places were fully occupied throughout 1968, when there were six new admissions replacing children discharged.

The School Dental Surgeon visited regularly and carried out any necessary treatment.

Torpenhow Open-Air School

The School accommodates 50 children and priority for admission is given to cases of asthma, bronchitis and bronchiectasis.

Children suitable for admission are selected by the School Medical Officers at medical inspections and enter Torpenhow Open-Air School initially for a period of at least two terms, this being extended if necessary. Pupils remain at Torpenhow throughout the year with the exception of the month of August, one week at Easter and a few days over Christmas, but attend the School during normal school term for the area. During school holidays a number of recreational activities such as walks, picnics, games and visits to places of interest, are organised.

A Speech Therapist visits the School for one session weekly.

The children were seen regularly by the School Dental Officer and the necessary treatment was carried out.

During the year four children from another authority attended this School and altogether 77 children were admitted and 77 were discharged. They were classified according to their various disabilities as follows:—

	ADMISSIONS		DISCHARGES	
	Boys	Girls	Boys	Girls
Asthma	6	8	10	3
Asthma and Eczema	9	3	5	2
Asthma and Aortic Stenosis ...	—	—	1	—
Asthma and Epilepsy	—	—	1	—
Bronchitis	2	3	4	3
Bronchitis and Emotional Problems	—	—	1	—
Non-Active T.B.	1	—	1	—
General Debility	23	13	19	15
Nervous Debility	2	1	1	1
Behaviour Problem	—	—	—	1
Encopresis	1	1	1	—
Obesity	1	—	1	—
Underweight and Undersized	—	—	2	—
Spina Bifida	—	—	1	—
Psoriasis	—	1	—	1
Asthma and Bronchiectasis ...	—	—	—	1
Maladjusted	2	—	1	—
General Debility and Deformity of Forearms	—	—	1	—
	47	30	50	27

SANITARY ADMINISTRATION

Milk in Schools Scheme

It is disappointing to have to record that owing to the national economic difficulties it was decided at central government level to discontinue the supply of milk in secondary education from the beginning of April 1968, also that in 1969 for similar reasons it was found necessary to exclude private schools from the scheme. Over the past years the 'Milk in Schools Scheme' has played an important part in improving the health of the nation's children, and hence of the nation itself.

Any new supply of milk proposed for a particular school is first referred by the Director of Education to the Health Department for approval. As will be seen from the table at the end of this report only two of the schools in the County were being supplied with 'untreated' (raw) milk. These are two isolated schools involving 45 pupils. It appears that under present circumstances, and owing to the rural nature of these schools, a supply of untreated milk will have to be accepted for the present.

Pasteurised milk is of course a 'safe' milk from the bacteriological standpoint, whereas untreated (raw) milk can be, and from time to time is, found to be infected with pathogenic organisms particularly brucella abortus.

With these factors in mind the sampling frequency is as follows:—

(a) Schools receiving a supply of pasteurised milk—twice yearly.

(b) Schools receiving a supply of untreated (raw) milk—monthly samples from the school and a monthly Dealer (herd) sample from the two herds involved.

No school in the county was without a supply of liquid milk at any time during the year.

During 1968 sampling of all school milk supplies throughout the county continued, all sampling being collected in the course of retail delivery. A total of 1,566 samples was collected as compared with 1,494 in 1967. All the schools in the administrative

county are sampled by the County Health Department milk sampling officers with the exception of the 23 primary schools in the area of the Crewe Borough Council. Here the Borough Health Department carries out regular school milk sampling by arrangement with the County Health Department and notifies all results.

The efficiency of the washing of school milk bottles at the dairies licensed by the County Council was checked by the collection of 150 washed school bottles from these dairies when the Sampling Officers were visiting for the purpose of other sampling. All the bottles submitted for examination were reported as satisfactory, the second year in which this has occurred.

It is thus seen that a considerable amount of work is carried out to try to ensure that each day, while the schools are open, the whole of the 92,000 or so pupils who take school milk receive a food which is clean and free from all pathogenic organisms and is delivered in clean undamaged containers.

Tables are given below showing the sampling which was carried out during 1968 and the results of such sampling, also the position regarding school milk supplies at the end of the year.

School Milk Samples and Examinations, 1968

Type of Milk	Total Samples Collected	Phosphatase Test		Methylene Blue Test*	
		Passed	Failed	Passed	Failed
Pasteurised	1544	668	—	1471	61
Untreated	22	—	—	22	—
Total	1566	668	—	1493	61

At the end of 1968, the position in the County regarding school milk supplies could be summarised as follows:—

Type of Milk	Schools Sampled by Cheshire C.C.		Schools Sampled by Crewe M.B.		No. of Children Supplied†	
	No. of Different Suppliers of Milk	No. of Schools Supplied	No. of Different Suppliers of Milk	No. of Schools Supplied	Total	As % of Total
Pasteurised ...	54	598‡	1	23	91857	99·951
Untreated ...	2	2	—	—	45	0·049
Total ...	56	600	1	23	91902	

School Swimming Pools, 1968

Bathing facilities for school children are provided at public pools, at privately-owned pools or at school pools. The public and private pools are supervised by the appropriate district council, but in the case of school pools these are supervised by the County Staff.

The advantages of having a school pool are obvious and the very high proportion of children who can swim at the schools which have their own facilities speaks for itself.

* The Methylene Blue Test was void in six cases owing to high atmospheric shade temperatures.

† Figures obtained from a census taken on a selected day in September, 1968.

‡ Includes 81 non-maintained schools.

Some schools have financed the construction of their own swimming pools. The County has carried out further maior improvements, including enclosure, to three of these: Calday Grange, Lymm and Christleton.

There are now 11 schools in the County with their own pools. Schemes to build a further two learner pools are well advanced. These will, it is hoped, be completed during the coming year.

Regular routine visits by the County Public Health Officer or his Deputy were made in 1968, during the period when the pools were in use.

Samples for bacteriological examination were taken and submitted to the Public Health Laboratory Service for examination. Normally three samples were taken on each occasion, one each from the inlet, outlet and centre sections of the pools.

A total of 219 water samples were taken during 1968; this is approximately the same level of sampling as in previous years. Only one of the total samples submitted was unsatisfactory, although 20 samples were reported as having a high plate count. The overall picture was satisfactory.

No outbreaks of illness or foot infection or other conditions associated with the use of swimming pools have been reported at schools having or using school pools.

School Sanitation

It has been decided that the inspection of schools for sanitary and handwashing arrangements and other structural matters affecting health, as well as food hygiene inspections, should become the responsibility of the County Public Health Officer, and should cease to form part of the duties of Assistant County Medical Officers during their routine medical inspections. An additional Public Health Officer commenced work with the Department at the end of 1968, and a survey is now being made throughout the schools of the County.

Reports are being prepared, division by division, and submitted both to the Director of Education and to the County Architect. These reports indicate how the schools measure up from a public health standpoint, bring out deficiencies where they exist, and pinpoint items which either contravene statutory regulations or are regarded from a health point of view as requiring early attention.

The Director of Education has indicated his satisfaction with this method of reporting and confirms that it will help him to establish priorities when more money becomes available in the minor capital works allocations.

During 1968, a joint survey was made at the request of the Cheadle and Gatley U.D.C. of all the 23 school canteens in the Urban District. Subsequent discussions did much to resolve differences of approach regarding new methods and equipment.

It is pleasing to note that the few schools still existing in the County with 'conservancy' toilets are now rapidly being dealt with and we shall soon have the situation where every county school is equipped with modern waterborne sanitation.

Medical Inspection Returns

Year ended 31st December, 1968

PART I
Medical Inspection of Pupils attending Maintained Primary and Secondary Schools

TABLE A.—PERIODIC MEDICAL INSPECTIONS

Age Groups Inspected (By year of Birth)	Number Inspected	Physical Condition of Pupils Inspected: Satisfactory	Physical Condition of Pupils Inspected: Unsatisfactory	Pupils found to require treatment (excluding dental diseases and infestation with vermin): For Defective Vision (excluding Squint)	Pupils found to require treatment (excluding dental diseases and infestation with vermin): For any other Condition recorded in Part II	Pupils found to require treatment (excluding dental diseases and infestation with vermin): Total Individual Pupils
1964 and later	65	65	—	2	18	20
1963	6469	6465	4	170	930	1034
1962	8500	8496	4	268	1318	1502
1961	2849	2848	1	108	438	506
1960	1230	1229	1	98	173	238
1959	763	763	—	56	107	147
1958	634	634	—	65	81	130
1957	1200	1200	—	123	152	248
1956	5764	5757	7	551	683	1130
1955	3541	3541	—	377	450	756
1954	3144	3141	3	280	220	461
1953 and earlier	7734	7730	4	794	543	1246
TOTAL	41893	41869	24	2892	5113	7418

The physical condition of 99·94 per cent. of the total number of pupils examined at periodic inspections was considered satisfactory.

TABLE B.—OTHER INSPECTIONS

Number of Special Inspections	1561
Number of Re-Inspections	13723
Total	15284

TABLE C
INFESTATION WITH VERMIN

(i) Total number of individual examinations of pupils in schools by the school nurses or other authorised persons	308474
(ii) Total number of individual pupils found to be infested ...	5305
(iii) Number of individual pupils in respect of whom cleansing notices were issued (Section 54 (2), Education Act, 1944) ...	4535
(iv) Number of individual pupils in respect of whom cleansing orders were issued (Section 54 (3), Education Act, 1944) ...	968

PART II

Defects found by Periodic and Special Medical Inspections during the year

DEFECTS OR DISEASES		PERIODIC INSPECTIONS Entrants	Leavers	Others	Total	SPECIAL INSPECTIONS
Skin	T	303	161	403	867	25
	O	398	177	231	806	25
Eyes:—						
(a) Vision ...	T	620	1019	1253	2892	271
	O	1308	819	1404	3531	117
(b) Squint ...	T	431	69	161	661	21
	O	314	58	138	510	20
(c) Other ...	T	54	18	31	103	7
	O	73	49	67	189	2
Ears:—						
(a) Hearing ...	T	164	30	41	235	23
	O	946	124	332	1402	53
(b) Otitis Media	T	129	26	36	191	4
	O	446	45	129	620	8
(c) Other ...	T	61	8	25	94	—
	O	111	12	58	181	5
Nose and Throat ...	T	734	89	216	1039	23
	O	1712	191	571	2474	51
Speech	T	307	12	55	374	32
	O	669	24	113	806	28
Lymphatic Glands	T	59	27	14	100	1
	O	692	22	138	852	13
Heart	T	52	8	19	79	—
	O	277	53	122	452	22
Lungs	T	161	35	125	321	9
	O	473	127	224	824	58
Developmental:—						
(a) Hernia ...	T	49	6	19	74	92
	O	2	10	104	5	2
(b) Other ...	T	69	14	62	145	7
	O	273	17	101	391	11
Orthopædic:—						
(a) Posture ...	T	14	29	20	63	1
	O	65	52	98	215	7
(b) Feet ...	T	222	66	175	463	9
	O	341	71	235	647	16
(c) Other ...	T	160	48	94	302	12
	O	292	102	150	544	15
Nervous System:—						
(a) Epilepsy ...	T	33	17	11	61	11
	O	46	11	31	88	22
(b) Other ...	T	20	8	16	44	1
	O	103	42	82	227	17
Psychological:—						
(a) Development	T	20	6	12	38	11
	O	259	99	318	676	107
(b) Stability ...	T	59	8	56	123	22
	O	942	144	518	1604	110
Abdomen	T	51	13	26	90	2
	O	145	42	107	294	17
Other	T	204	45	139	388	34
	O	728	119	379	1226	39

T—Requiring Treatment. O—Requiring Observation.

PART III

Treatment of Pupils attending Maintained Primary and Secondary Schools

TABLE A.--EYE DISEASES, DEFECTIVE VISION AND SQUINT

	Number of cases known to have been dealt with
External and other, excluding errors of refraction and squint ...	504
Errors of Refraction (including squint)	12859
Total ...	13363
Number of pupils for whom spectacles were prescribed ...	4230

TABLE B.—DISEASES AND DEFECTS OF EAR, NOSE AND THROAT

	Number of cases known to have been treated
Received operative treatment	
(a) for diseases of the ear	28
(b) for adenoids and chronic tonsillitis	274
(c) for other nose and throat conditions	58
Received other forms of treatment	158
Total ...	518
Total number of pupils in schools who are known to have been provided with hearing aids	
(a) in 1968	48
(b) in previous years	160

TABLE C.—ORTHOPÆDIC AND POSTURAL DEFECTS

(a) Number of pupils known to have been treated at clinics or out-patient departments	239
(b) Pupils treated at school for postural defects	—
Total ...	239

TABLE D.—DISEASES OF THE SKIN (excluding uncleanliness, for which see Part I, Table C)

	Number of cases known to have been treated
Ringworm— (i) Scalp	—
(ii) Body	—
Scabies	70
Impetigo	68
Other skin diseases	170
Total ...	308

TABLE E.—CHILD GUIDANCE TREATMENT

No. of pupils receiving treatment at Child Guidance Clinics	463

TABLE F.—SPEECH THERAPY

Pupils treated by speech therapists	2074

TABLE G.—OTHER TREATMENT GIVEN

Pupils with Minor Ailments	3033
Pupils who received B.C.G. vaccination	9329
U.V.L. treatment	144
Total ...	12506

PART IV

Dental Inspection and Treatment carried out by the Authority

Attendances and Treatment	Ages 5 to 9	Ages 10 to 14	Ages 15 and over	Total
First visit	15264	10988	2178	28430
Subsequent visits	16109	17335	3876	37320
Total visits	31373	28323	6054	65750
Additional courses of treatment commenced	1895	1240	218	3353
Fillings in permanent teeth ...	12020	24638	6296	42954
Fillings in deciduous teeth ...	16545	1025	—	17570
Permanent teeth filled	9387	20871	5514	35772
Deciduous teeth filled	14905	931	—	15836
Permanent teeth extracted ...	1145	4576	949	6670
Deciduous teeth extracted ...	16839	4653	—	21492
General anaesthetics	6148	2761	305	9214
Emergencies	2451	1028	210	3689
Number of pupils X-rayed				850
Prophylaxis				6275
Teeth otherwise conserved				2325
Number of teeth root filled				51
Inlays				19
Crowns				51
Courses of treatment completed				24450

Orthodontics

Cases remaining from previous year	441
New cases commenced during year	283
Cases completed during year	178
Cases discontinued during year	37
No. of removable appliances fitted	349
No. of fixed appliances fitted	31
Pupils referred to Hospital Consultant	97

Prosthetics	Ages 5 to 9	Ages 10 to 14	Ages 15 and over	Total
Pupils supplied with F.U. or F.L. (first time)	1	3	2	6
Pupils supplied with other dentures (first time)	11	71	30	112
Number of dentures supplied ...	11	72	38	121

Anæsthetics	
General Anæsthetics administered by Dental Officers	1920
Inspections	
(a) First inspection at school. Number of pupils	113160
(b) First inspection at clinic. Number of pupils	15333
Number of (a) + (b) found to require treatment	66061
Number of (a) + (b) offered treatment	56040
(c) Pupils re-inspected at school or clinic	13327
Number of (c) found to require treatment	5984
Sessions	
Sessions devoted to treatment	11771
Sessions devoted to inspection	1166
Sessions devoted to Dental Health Education	24

Number of handicapped pupils examined in School

Defect	Number of New Cases	Number of Re-exams
Blind	—	6
Partially Sighted	12	41
Deaf	2	2
Partially Hearing	40	117
Delicate	23	141
Diabetic	7	28
E.S.N.	160	656
Epileptic	49	125
Maladjusted	22	45
Physically Handicapped	78	289
Speech Defect	4	12

MISCELLANEOUS EXAMINATIONS

Medical Examinations at School Clinics		4796
Number of children examined for part-time employment		308
Number of Special Reports completed on children examined at:—		
Schools	134	
School Clinics	473	
Homes of Pupils	201	
		808

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COUNTY DISTRICT STATISTICS
1968

TABLE A

Deaths by Causes.—Sex—

Live Births, Stillbirths, Deaths under 1 yr., 4 wks., 1 wk.,

Live Birth Rate, Stillbirth Rate, Infantile Mortality, Perinatal Mortality, Death Rate,

Population, Area—

- Each County District

TABLE B

Deaths by Causes.—Sex; Age—

- Urban Districts, Rural Districts

CAUSE OF DEATH	Altrincham M.B.		Bebington M.B.		Congleton M.B.		Crewe M.B.		Dukinfield M.B.		Ellesmere Port M.B.		Hyde M.B.		Macclesfield M.B.		Sale M.B.		Stalybridge M.B.		Alderley Edge U.D.		Alsager U.D.		Bollington U.D.		Bowdon U.D.		Bredbury and Bromley U.D.		Cheadle and Gatley U.D.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
B4 Enteritis and Other Diarrhoeal Diseases	—	—	—	1	—	—	1	—	—	—	—	—	—	—	1	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2
B5 Tuberculosis of Respiratory System	—	—	—	—	1	1	2	—	—	—	1	—	1	1	—	—	1	—	2	1	—	—	—	—	—	—	—	—	—	—	1	1
B6 Other Tuberculosis, inc. Late Effects	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
B14 Measles	—	—	—	1	—	—	—	—	—	—	—	—	—	1	—	—	1	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—
B17 Syphilis and its Sequelae	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1
B18 Other Infective and Parasitic Diseases	—	1	—	2	2	—	1	—	—	—	—	—	—	—	—	1	—	—	1	—	—	—	—	—	—	—	—	—	8	4	12	4
B19(1) Malignant Neoplasm—Stomach	4	4	6	8	6	3	8	11	1	2	5	4	4	7	10	10	3	8	7	3	—	—	1	—	—	1	—	—	—	—	17	5
B19(2) Malignant Neoplasm—Lung, Bronchus	27	3	26	5	5	1	25	6	8	1	24	6	23	5	20	3	21	7	15	2	1	—	3	1	6	2	2	2	7	1	17	5
B19(3) Malignant Neoplasm—Breast	—	11	—	19	—	4	—	14	—	4	—	6	—	8	—	4	—	5	—	6	—	—	—	—	—	2	—	—	—	2	—	8
B19(4) Malignant Neoplasm—Uterus	—	3	—	6	—	4	—	7	—	—	—	4	—	2	—	5	—	3	—	4	—	—	—	—	—	—	—	—	—	3	—	1
B19(5) Leukaemia	—	—	1	4	—	—	—	—	1	3	1	—	1	—	—	2	3	2	1	1	—	—	—	—	—	—	—	—	—	1	2	1
B19(6) Other Malignant Neoplasms, etc.	27	28	40	27	12	16	32	19	9	8	25	23	14	28	36	29	30	29	17	9	3	5	4	2	7	7	4	3	15	17	19	23
B20 Benign and Unspecified Neoplasms	—	—	2	3	—	—	1	1	—	—	3	1	—	1	—	—	—	—	—	1	1	—	—	—	7	—	—	—	—	—	1	—
B21 Diabetes Mellitus	—	1	2	3	—	1	5	4	—	2	1	—	—	4	1	2	2	3	1	—	—	—	—	2	—	1	—	—	5	1	4
B46(1) Other Endocrine, etc. Diseases	—	1	—	1	—	—	—	—	—	1	—	—	—	—	1	—	—	1	—	—	—	—	—	—	—	—	—	—	—	1	—
B23 Anaemias	1	—	—	2	1	—	2	3	—	1	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
B46(2) Other Diseases of Blood, etc.	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	1	1
B46(3) Mental Disorders	—	—	—	1	—	—	—	2	—	—	1	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
B24 Meningitis	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	1	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
B46(4) Other Diseases of Nervous System, etc.	5	3	1	3	—	1	2	2	3	1	3	—	1	4	3	1	2	7	1	1	—	1	—	—	—	1	—	3	2	4	3	4
B25 Active Rheumatic Fever	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
B26 Chronic Rheumatic Heart Disease	1	4	3	1	—	—	1	—	1	2	2	4	1	10	3	4	4	5	3	5	—	1	—	1	—	1	1	2	—	3	1	4
B27 Hypertensive Disease	5	4	2	5	1	3	1	5	1	2	2	3	4	7	6	4	5	6	1	3	—	—	—	1	—	—	1	—	5	3	5	6
B28 Ischaemic Heart Disease	71	51	92	67	36	22	92	44	33	19	63	43	48	44	75	63	89	60	28	27	12	3	8	3	10	4	7	6	44	27	61	54
B29 Other Forms of Heart Disease	14	17	7	18	4	5	8	18	6	7	3	9	8	11	11	25	8	10	4	13	2	3	1	4	1	4	1	4	8	13	15	14
B30 Cerebrovascular Disease	36	41	38	79	13	21	40	61	19	9	14	25	43	58	24	49	42	54	20	33	6	8	4	8	—	3	7	9	23	39	31	61
B46(5) Other Diseases of Circulatory System	9	17	9	13	3	13	7	10	1	4	8	5	5	11	9	10	12	24	2	11	—	1	7	1	1	—	—	3	5	3	8	19
B31 Influenza	**1**	**—**	**2**	**2**	**2**	**—**	**2**	**3**	1	1	—	—	2	6	3	2	2	1	—	2	—	1	—	—	—	1	4	—	—	1	—	2
B32 Pneumonia	3	6	21	43	5	4	15	13	12	19	16	14	16	27	24	60	13	10	17	24	3	3	3	4	6	4	—	—	9	10	8	18
B33(1) Bronchitis and Emphysema	16	11	16	25	10	3	27	10	12	3	19	9	13	13	16	4	28	7	16	11	2	1	4	1	1	—	2	2	7	3	21	6
B33(2) Asthma	—	1	—	1	—	—	—	2	—	—	—	1	1	—	1	—	—	2	—	—	—	—	—	—	—	2	—	—	1	—	—	1
B46(6) Other Diseases of Respiratory System	1	1	2	1	1	—	6	3	—	4	—	3	—	—	2	7	3	—	1	2	—	1	—	1	—	—	1	—	—	2	1	2
B34 Peptic Ulcer	7	—	3	1	2	—	3	2	2	3	2	1	—	1	—	2	1	4	3	1	—	—	—	—	—	—	—	—	1	—	1	—
B36 Intestinal Obstruction and Hernia	—	—	2	1	—	1	1	2	1	—	—	—	—	1	2	3	3	1	—	—	1	—	—	1	—	—	—	1	—	2	1	2
B37 Cirrhosis of Liver	—	1	—	—	—	1	2	1	—	1	1	1	—	1	—	1	—	2	—	—	—	—	—	—	—	—	—	—	—	—	1	1
B46(7) Other Diseases of Digestive System	4	2	4	2	1	—	4	9	—	3	1	3	2	2	2	3	—	1	1	—	1	—	—	2	—	—	—	—	—	—	1	2
B38 Nephritis and Nephrosis	1	1	1	1	2	1	1	2	2	1	—	1	2	1	3	1	1	—	1	1	1	—	1	1	1	—	1	1	4	—	—	—
B39 Hyperplasia of Prostate	1	—	2	—	—	—	3	—	1	—	1	—	—	—	4	—	1	—	1	—	—	—	—	—	—	—	—	—	1	—	2	—
B46(8) Other Diseases, Genito-Urinary System	1	3	2	4	3	2	1	2	—	1	2	2	1	2	3	1	2	1	1	—	—	—	—	—	2	—	—	—	—	—	—	3
B41 Other Complications of Pregnancy, etc.	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
B46(9) Diseases of Skin, Subcutaneous Tissue	1	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
B46(10) Diseases of Musculo-Skeletal System	—	2	1	3	—	1	1	1	—	1	—	1	3	2	—	3	—	2	1	—	—	—	1	—	—	1	—	—	1	1	1
B42 Congenital Anomalies	1	3	1	6	—	1	2	4	—	3	—	5	3	—	2	1	1	3	—	—	—	—	—	—	—	—	—	—	—	2	5	4
B43 Birth Injury, Difficult Labour, etc.	1	1	2	1	1	—	3	2	2	3	3	2	1	—	4	1	3	1	2	2	—	—	1	—	—	—	—	—	—	1	4	—
B44 Other Causes of Perinatal Mortality	2	—	2	3	6	1	1	2	2	—	6	3	5	4	3	—	2	—	2	1	—	—	—	—	—	—	—	1	2	1	3	—
B45 Symptoms and Ill-Defined Conditions	5	5	—	1	—	2	21	21	1	7	—	1	2	28	—	2	3	4	1	4	1	1	—	—	—	3	1	1	2	5	1	2
BE47 Motor Vehicle Accidents	6	1	3	6	1	—	4	1	1	—	9	1	1	4	3	1	5	1	2	2	—	—	—	—	—	—	—	—	—	2	4	1
BE48 All Other Accidents	—	2	3	4	—	1	9	8	1	—	9	4	4	6	4	3	2	2	2	5	—	1	1	—	—	1	—	—	1	1	3	3
BE49 Suicide and Self-Inflicted Injuries	2	1	2	1	—	—	3	—	3	—	3	1	3	2	3	2	—	4	—	1	—	—	—	—	—	1	—	—	2	1	2	1
BE50 All Other External Causes	1	—	—	—	—	—	3	—	—	—	—	3	—	—	1	—	1	1	1	—	—	—	—	—	—	—	—	—	—	—	—	—
TOTAL ALL CAUSES	254	225	299	375	118	113	341	296	124	117	228	190	212	304	284	312	296	272	155	176	34	30	40	34	35	37	28	44	147	155	240	268
LIVE BIRTHS—Total	339	313	483	471	180	174	465	402	133	138	632	563	342	334	416	409	499	434	223	173	29	23	87	88	56	44	32	21	291	256	494	473
Legitimate	311	289	448	443	177	164	418	364	123	127	588	520	317	293	379	375	472	415	194	157	28	22	81	88	49	42	28	20	277	237	478	457
Illegitimate	28	24	35	28	3	10	47	38	10	11	44	43	25	41	37	34	27	19	29	16	1	1	6	—	7	2	4	1	14	19	16	16
STILLBIRTHS—Total	4	5	9	1	3	2	9	9	5	1	4	15	10	8	3	5	9	8	3	6	—	—	—	—	2	2	—	—	3	3	1	6
Legitimate	4	4	6	1	3	2	8	8	5	1	3	15	9	7	3	5	8	8	3	6	—	—	—	—	2	2	—	—	3	3	1	6
Illegitimate	—	1	3	—	—	—	1	1	—	—	1	—	1	1	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
DEATHS OF INFANTS—Total (under one year of age)	5	3	8	9	8	1	11	11	6	7	14	11	9	7	12	5	10	2	5	5	—	—	1	1	—	1	—	1	2	4	10	5
Legitimate	4	3	8	9	8	1	8	10	6	7	14	6	9	7	12	4	9	2	5	5	—	—	1	1	—	1	—	1	2	4	10	5
Illegitimate	1	—	—	—	—	—	3	1	—	—	—	5	—	—	—	1	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
DEATHS OF INFANTS—Total (under 4 weeks of age)	5	2	6	6	7	1	5	5	4	6	8	6	8	4	10	1	7	2	5	3	—	—	1	—	—	1	—	1	2	3	8	5
Legitimate	4	2	6	6	7	1	4	5	4	6	8	2	8	4	10	1	6	2	5	3	—	—	1	—	—	1	—	1	2	3	8	5
Illegitimate	1	—	—	—	—	—	1	—	—	—	—	4	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
DEATHS OF INFANTS—Total (under one week of age)	2	1	6	5	7	1	4	5	3	4	8	5	7	4	8	1	6	1	4	3	—	—	1	—	—	—	—	—	2	3	7	5
Legitimate	2	1	6	5	7	1	3	5	3	4	8	2	7	4	8	1	5	1	4	3	—	—	1	—	—	—	—	—	2	3	7	5
Illegitimate	—	—	—	—	—	—	1	—	—	—	—	3	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
LIVE BIRTHS—Rate per 1,000 population	15·9		17·0		18·4		16·6		15·8		21·8		17·4		19·8		16·9		18·2		12·5		17·0		16·3		11·3		19·5		17·3	
STILLBIRTHS—Rate per 1,000 total births	14		10		14		20		22		16		26		10		18		22		—		—		38		—		11		7	
INFANTILE MORTALITY—(Deaths under one year) Rate per 1,000 live births	12		18		25		25		48		21		24		21		13		25		—		11		10		19		11		16	
PERINATAL MORTALITY—(Stillbirths and deaths under 1 week) Rate per 1,000 total births	18		20		36		31		47		26		42		20		25		40		—		6		38		—		20		20	
DEATHS ALL AGES—Rate per 1,000 population	11·7		12·0		12·0		12·2		14·1		7·6		13·3		14·3		10·3		15·2		15·4		7·2		11·8		15·3		10·8		9·1	
MID-1968 POPULATION	41030		56230		19210		52220		17120		54930		38870		41610		55370		21710		4150		10290		6120		4710		28090		56040	
ACREAGE, 1-4-68	3477		12235		5587		4389		1725		9477		4170		4787		3629		3190		762		2243		1442		1090		4290		5299	

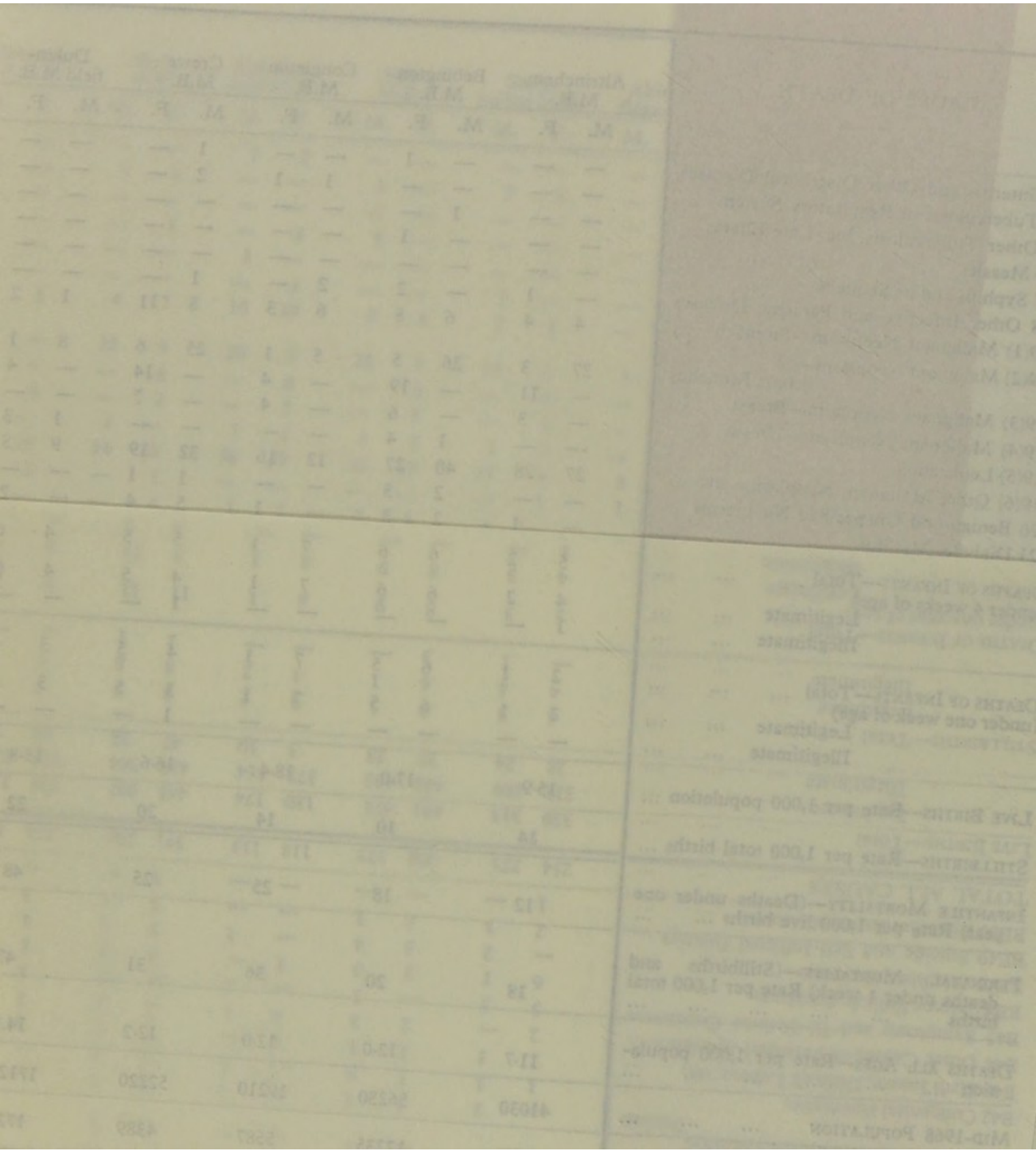

TABLE A (Urban ii)

CAUSE OF DEATH	Hale U.D.C.		Hazel Grove and Bramhall U.D.C.		Hoylake U.D.C.		Knutsford U.D.C.		Longdendale U.D.C.		Lymm U.D.C.		Marple U.D.C.		Middlewich U.D.C.		Nantwich U.D.C.		Neston U.D.C.		Northwich U.D.C.		Runcorn U.D.C.		Sandbach U.D.C.		Wilmslow U.D.C.		Winsford U.D.C.		Wirral U.D.C.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
B3 Bacillary Dysentery, Amoebiasis	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—
B4 Enteritis and Other Diarrhoeal Diseases	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	1	1	1	—	—	—	—	—	—	—	—
B5 Tuberculosis of Respiratory System	—	—	1	—	1	—	—	—	—	—	—	—	1	—	—	—	—	—	1	—	2	—	1	—	—	—	—	—	—	—	—	—
B6 Other Tuberculosis, inc. Late Effects	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1	—	—	—	—	—	—	1	1
B11 Meningococcal Infection	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—
B18 Other Infective and Parasitic Diseases	—	—	—	—	1	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	1	—
B19(1) Malignant Neoplasm—Stomach	—	2	2	3	1	3	2	2	6	4	2	1	2	5	1	3	1	—	1	2	5	3	6	11	2	1	2	1	1	2	3	1
B19(2) Malignant Neoplasm—Lung, Bronchus	6	3	15	6	13	2	2	2	8	1	2	—	5	1	2	1	3	1	8	3	18	2	16	3	4	—	17	2	7	2	21	4
B19(3) Malignant Neoplasm—Breast	—	3	—	4	—	5	—	1	—	3	—	2	—	4	—	1	—	2	—	2	—	1	—	9	—	2	—	5	—	5	—	7
B19(4) Malignant Neoplasm—Uterus	—	3	—	—	—	2	—	—	—	—	—	1	—	1	—	—	—	—	—	2	—	2	—	4	—	—	—	1	—	—	—	2
B19(5) Leukaemia	—	1	—	1	2	—	—	—	1	—	—	1	1	1	—	—	—	1	—	—	2	1	—	1	—	1	1	1	2	—	2	1
B19(6) Other Malignant Neoplasms, etc.	9	9	19	20	22	18	5	7	1	3	6	7	13	16	6	4	7	6	5	11	16	7	15	16	5	2	10	6	7	6	15	16
B20 Benign and Unspecified Neoplasms	—	1	—	—	—	—	—	—	—	—	—	—	—	1	—	—	1	—	—	1	—	—	—	—	—	—	1	—	1	—	1	—
B21 Diabetes Mellitus	—	2	—	1	2	3	—	2	—	1	—	—	—	2	—	—	—	1	—	4	2	3	1	2	—	—	1	1	—	1	1	1
B46(1) Other Endocrine, etc. Diseases	—	—	1	—	1	1	—	—	—	—	—	—	—	2	—	—	1	—	1	—	—	—	1	3	1	—	—	2	—	1	—	1
B23 Anaemias	—	1	—	1	1	2	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	1	1	—	—	—	—	—	1	2	1	—
B46(3) Mental Disorders	—	—	—	—	—	1	—	—	—	—	—	—	—	1	—	—	—	6	—	—	—	3	—	—	—	—	—	—	—	—	1	—
B24 Meningitis	—	—	—	—	—	—	—	—	1	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
B46(4) Other Diseases of Nervous System, etc.	1	1	3	6	1	2	3	2	1	—	—	—	1	1	—	1	1	—	1	—	2	1	5	3	—	—	3	1	1	2	1	2
B26 Chronic Rheumatic Heart Disease	—	1	3	3	2	7	—	1	—	2	—	2	—	1	—	—	—	—	—	1	—	1	2	1	1	—	—	3	1	—	1	2
B27 Hypertensive Disease	4	1	1	2	2	5	3	2	1	2	—	1	1	3	—	1	—	1	—	3	5	3	2	4	—	—	—	1	1	3	—	3
B28 Ischaemic Heart Disease	26	21	52	35	72	60	21	19	16	8	17	9	30	19	9	9	18	11	28	15	42	25	58	37	22	10	36	39	24	13	51	24
B29 Other Forms of Heart Disease	5	4	5	8	10	7	2	10	2	1	3	5	3	5	1	—	2	3	1	5	7	23	8	4	—	4	1	3	4	9	3	7
B30 Cerebrovascular Disease	12	17	23	34	23	34	17	43	8	7	8	9	10	30	6	11	9	18	5	16	17	24	22	31	5	9	23	33	12	10	16	22
B46(5) Other Diseases of Circulatory System	2	8	19	8	8	11	1	4	—	1	1	2	3	6	2	—	2	8	2	3	4	8	9	9	4	3	9	14	3	4	4	8
B31 Influenza	—	1	2	4	1	—	—	4	2	1	—	—	—	—	—	—	—	2	—	—	—	—	1	1	—	1	—	—	—	—	—	1
B32 Pneumonia	2	2	8	5	15	27	2	3	5	3	5	4	8	4	—	1	7	8	8	8	13	3	5	12	4	3	6	8	3	5	8	12
B33(1) Bronchitis and Emphysema	6	2	9	2	23	7	3	2	3	4	2	1	6	2	2	—	5	7	9	1	11	3	13	4	6	1	5	1	7	3	12	6
B33(2) Asthma	—	1	—	—	1	1	—	—	—	—	—	1	3	—	—	—	—	—	—	—	1	—	—	—	—	1	1	—	—	—	—	—
B46(6) Other Diseases of Respiratory System	—	—	—	4	1	—	—	1	1	—	—	—	—	—	1	—	—	—	—	—	3	2	3	—	—	—	1	—	2	1	—	—
B34 Peptic Ulcer	1	—	—	3	1	2	1	1	—	—	—	—	3	—	—	—	—	1	—	—	2	1	2	1	—	2	2	—	2	—	1	—
B35 Appendicitis	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1	—	—	—	—	1	—	—	—	—
B36 Intestinal Obstruction and Hernia	1	—	1	1	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1	—	3	1	—	1	—	—	1	1	—
B37 Cirrhosis of Liver	—	—	—	2	1	1	—	—	—	—	—	—	—	—	—	—	1	—	—	—	1	—	1	—	—	—	—	—	1	—	—	1
B46(7) Other Diseases of Digestive System	1	1	1	1	3	3	—	3	—	1	1	—	—	2	—	—	—	—	1	1	—	1	—	2	1	—	2	3	—	2	1	—
B38 Nephritis and Nephrosis	—	—	—	1	—	1	—	—	—	1	—	—	1	1	1	—	2	—	—	—	1	—	2	—	1	—	—	—	1	1	2	—
B39 Hyperplasia of Prostate	—	—	2	—	1	—	—	—	—	—	—	—	—	—	1	—	2	—	—	—	1	—	1	—	—	—	—	—	—	—	—	—
B46(8) Other Diseases, Genito-Urinary System	—	—	1	2	1	3	1	—	—	—	—	1	1	2	1	1	—	1	1	1	1	3	3	—	—	—	2	2	—	—	—	3
B46(9) Diseases of Skin, Subcutaneous Tissue	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—
B46(10) Diseases of Musculo-Skeletal System	—	—	—	1	1	2	2	1	—	—	—	—	—	1	—	1	1	1	1	1	—	1	—	2	—	1	—	—	—	—	—	1
B42 Congenital Anomalies	1	1	3	3	—	1	—	—	1	—	2	—	—	—	1	1	1	1	—	—	—	—	3	—	—	—	1	1	2	4	—	2
B43 Birth Injury, Difficult Labour, etc.	1	—	1	1	—	—	1	—	2	—	—	1	—	2	—	—	1	—	3	—	—	—	3	—	1	—	1	1	4	1	—	—
B44 Other Causes of Perinatal Mortality	—	—	3	—	—	—	—	—	—	1	—	1	1	—	—	—	1	—	—	1	—	—	2	2	—	—	1	—	1	1	1	1
B45 Symptoms and Ill-Defined Conditions	—	1	1	2	—	—	1	7	—	—	—	—	1	1	2	5	3	3	1	—	—	2	—	—	9	6	—	2	1	7	—	1
BE47 Motor Vehicle Accidents	1	1	5	5	1	2	2	1	—	—	2	—	3	—	2	1	1	—	2	—	—	2	1	1	3	—	2	1	2	—	4	1
BE48 All Other Accidents	2	2	2	2	1	4	—	1	—	—	—	3	3	—	—	—	3	2	2	2	2	2	3	1	1	—	2	2	3	1	—	4
BE49 Suicide and Self-Inflicted Injuries	1	—	—	3	—	1	—	1	—	1	—	—	—	1	—	—	—	1	2	1	1	—	1	1	—	—	2	4	—	—	2	1
BE50 All Other External Causes	—	—	—	—	—	—	1	—	—	—	1	—	—	—	2	—	—	—	—	—	—	—	—	—	—	—	—	1	2	—	—	—
TOTAL ALL CAUSES	82	90	183	175	213	219	70	120	60	45	52	52	100	117	41	42	73	86	83	84	161	132	195	170	71	47	133	140	96	87	155	136
LIVE BIRTHS—Total	101	95	307	300	202	207	66	92	86	92	101	107	192	206	82	73	97	81	170	165	130	129	296	266	121	110	233	211	263	234	239	198
Legitimate	94	92	296	290	193	195	66	87	82	86	100	103	174	198	78	72	92	76	165	161	121	122	279	246	115	103	215	197	253	227	231	186
Illegitimate	7	3	11	10	9	12	—	5	4	6	1	4	18	8	4	1	5	5	5	4	9	7	17	20	6	7	18	14	10	7	8	12
STILLBIRTHS—Total	—	—	3	3	7	3	—	1	4	—	—	1	4	1	—	1	—	3	4	—	6	2	3	3	—	1	2	—	3	7	3	3
Legitimate	—	—	2	3	7	2	—	1	4	—	—	1	3	1	—	1	—	3	4	—	4	2	3	3	—	1	2	—	3	7	3	1
Illegitimate	—	—	1	—	—	1	—	—	—	—	—	—	1	—	—	—	—	—	—	—	2	—	—	—	—	—	—	—	—	—	—	2
DEATHS OF INFANTS—Total (under one year of age)	2	—	9	5	—	1	1	1	4	1	3	2	4	3	1	1	3	1	3	1	4	1	8	4	4	1	4	2	8	5	2	3
Legitimate	2	—	9	5	—	1	1	1	4	1	3	2	4	3	1	1	2	1	3	1	3	1	8	3	4	1	4	2	8	5	—	3
Illegitimate	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	1	—	—	—	—	—	—	—	—	—	2	—
DEATHS OF INFANTS—Total (under 4 weeks of age)	2	—	8	3	—	1	1	—	4	1	—	2	3	3	—	—	2	1	3	1	1	—	8	3	4	—	3	1	7	3	1	3
Legitimate	2	—	8	3	—	1	1	—	4	1	—	2	3	3	—	—	1	1	3	1	1	—	8	2	4	—	3	1	7	3	—	3
Illegitimate	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	1	—	1	—	—	—	—	—	—	1	—
DEATHS OF INFANTS—Total (under one week of age)	2	—	6	3	—	1	1	—	3	1	—	2	1	2	—	—	2	—	3	1	1	—	7	3	3	—	3	1	5	3	1	2
Legitimate	2	—	6	3	—	1	1	—	3	1	—	2	1	2	—	—	1	—	3	1	1	—	7	2	3	—	3	1	5	3	—	2
Illegitimate	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	1	—	—	—	—	—	—	1	—
LIVE BIRTHS—Rate per 1,000 population	12·0		17·2		12·7		13·9		17·7		22·7		16·5		19·4		15·9		20·5		13·6		18·2		19·8		15·4		24·4		16·9	
STILLBIRTHS—Rate per 1,000 total births	—		10		24		6		22		5		12		6		17		12		30		11		4		4		20		14	
INFANTILE MORTALITY—(Deaths under one year) Rate per 1,000 live births	10		23		2		13		28		24		18		13		22		12		19		21		22		14		26		11	
PERINATAL MORTALITY—(Stillbirths and deaths under 1 week) Rate per 1,000 total births	10		24		26		13		44		14		20		6		28		24		34		28		17		13		36		20	
DEATHS ALL AGES—Rate per 1,000 population	10·5		10·1		13·4		16·7		10·5		11·4		9·0		10·4		14·2		10·2		15·3		11·8		10·1		9·5		9·0		11·2	
MID-1968 POPULATION	16330		35360		32320		11400		10030		9150		24060		7980		11180		16370		19090		30890		11670		28750		20380		25890	
ACREAGE, 1-4-68	2264		5990		6065		2485		3545		4241		7130		1971		1179		8495		2636		8045		3716		7691		7094		5801	

TABLE A (Rural)

CAUSE OF DEATH	Bucklow R.D.		Chester R.D.		Congleton R.D.		Disley R.D.		Macclesfield R.D.		Nantwich R.D.		Northwich R.D.		Runcorn R.D.		Tarvin R.D.		Tintwistle R.D.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
B4 Enteritis and other Diarrhoeal Diseases	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—
B5 Tuberculosis of Respiratory System	—	—	1	1	—	—	—	—	2	—	—	—	—	—	—	—	1	—	—	—
B6 Other Tuberculosis, inc. Late Effects	—	—	1	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
B17 Syphilis and its Sequelae	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
B18 Other Infective and Parasitic Diseases	—	—	1	—	1	1	—	—	—	1	—	—	—	—	1	—	1	1	—	—
B19(1) Malignant Neoplasm—Stomach	1	—	6	1	3	—	—	2	2	1	3	3	5	3	3	8	4	2	—	—
B19(2) Malignant Neoplasm—Lung, Bronchus	6	2	18	3	5	—	1	1	8	1	10	1	12	5	13	2	8	1	—	—
B19(3) Malignant Neoplasm—Breast	—	3	—	6	—	4	—	1	—	7	—	6	1	6	—	4	—	1	—	—
B19(4) Malignant Neoplasm—Uterus	—	—	—	4	—	—	—	—	—	1	—	2	—	3	—	7	—	—	—	—
B19(5) Leukaemia	—	1	—	2	—	—	—	—	—	1	1	—	—	—	2	3	2	1	—	—
B19(6) Other Malignant Neoplasms, etc.	9	4	17	21	10	8	1	4	19	16	20	18	17	21	24	19	13	4	—	—
B20 Benign and Unspecified Neoplasms	—	—	1	2	1	—	—	—	—	—	—	1	3	1	—	—	—	—	—	—
B21 Diabetes Mellitus	1	2	3	—	1	3	—	—	—	2	2	3	1	6	3	2	3	1	—	—
B22 Avitaminoses, etc.	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—
B46(1) Other Endocrine, etc. Diseases	2	1	—	—	—	1	1	—	—	1	—	2	—	1	—	3	—	1	—	—
B23 Anaemias	—	1	1	2	—	3	—	—	—	—	—	1	—	1	1	2	1	—	—	—
B46(3) Mental Disorders	—	—	1	3	—	—	—	—	—	—	—	1	—	1	—	—	—	1	—	—
B24 Meningitis	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
B46(4) Other Diseases of Nervous System, etc.	2	1	1	—	1	3	—	—	4	2	1	—	—	2	1	1	1	1	—	—
B26 Chronic Rheumatic Heart Disease	—	1	2	2	1	4	—	—	—	6	—	2	1	3	1	2	1	4	—	—
B27 Hypertensive Disease	—	—	4	10	2	1	—	—	—	—	2	5	3	2	4	6	3	—	—	—
B28 Ischaemic Heart Disease	27	10	55	47	21	12	7	4	34	35	54	17	62	35	87	49	21	21	3	1
B29 Other Forms of Heart Disease	3	5	11	15	5	4	—	—	6	4	18	14	17	16	14	19	6	7	—	2
B30 Cerebrovascular Disease	9	18	34	45	17	33	1	6	12	19	22	30	28	46	18	40	11	12	2	2
B46(5) Other Diseases of Circulatory System	2	1	7	17	6	4	5	10	10	5	16	7	8	11	15	16	2	4	—	—
B31 Influenza	—	—	—	—	2	3	—	1	—	1	2	—	—	1	1	—	1	1	—	1
B32 Pneumonia	4	5	23	41	2	2	1	2	9	11	7	12	8	9	13	21	4	5	—	—
B33(1) Bronchitis and Emphysema	3	—	17	7	15	—	3	1	6	4	19	6	14	2	17	6	4	2	3	—
B33(2) Asthma	—	—	—	2	1	—	—	—	1	—	—	1	1	3	—	—	—	—	—	—
B46(6) Other Diseases of Respiratory System	3	2	—	2	2	—	—	—	2	2	—	2	2	1	3	2	—	1	—	—
B34 Peptic Ulcer	2	1	2	—	—	—	1	—	2	1	3	2	1	1	—	1	—	—	—	—
B35 Appendicitis	—	—	1	—	1	—	—	—	—	—	—	—	—	1	—	1	—	—	—	—
B36 Intestinal Obstruction and Hernia	—	—	—	—	1	—	—	—	—	—	1	—	1	2	2	2	—	1	—	—
B37 Cirrhosis of Liver	—	—	2	1	—	—	—	1	—	1	1	—	—	—	—	1	—	—	—	—
B46(7) Other Diseases of Digestive System	1	1	—	1	1	—	—	1	3	5	2	2	3	4	1	3	—	—	—	—
B38 Nephritis and Nephrosis	—	1	—	3	—	—	1	—	1	—	1	1	—	3	2	1	—	2	1	—
B39 Hyperplasia of Prostate	—	—	3	—	3	—	—	—	—	—	2	—	2	—	2	—	—	2	—	—
B46(8) Other Diseases, Genito-Urinary System	—	1	2	5	2	—	—	—	1	3	1	2	1	1	2	3	1	1	—	—
B41 Other Complications of Pregnancy, etc.	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—
B46(9) Diseases of Skin, Subcutaneous Tissue	—	—	—	—	—	—	—	—	—	1	—	1	—	—	—	—	—	—	—	—
B46(10) Diseases of Musculo-Skeletal System	1	—	—	2	—	1	—	—	—	1	—	3	1	1	1	5	—	1	—	—
B42 Congenital Anomalies	4	1	2	4	1	1	—	—	2	2	4	—	1	4	3	1	3	—	—	—
B43 Birth Injury, Difficult Labour, etc.	1	—	2	—	1	—	—	—	—	—	2	1	2	—	3	3	1	1	—	—
B44 Other Causes of Perinatal Mortality	1	1	—	—	—	—	—	—	—	—	2	1	2	4	5	1	—	2	—	—
B45 Symptoms and Ill-Defined Conditions	1	2	1	1	22	46	—	—	—	—	4	13	2	5	—	1	2	—	—	—
BE47 Motor Vehicle Accidents	3	2	2	4	1	1	—	—	3	5	6	3	9	1	7	2	4	—	—	—
BE48 All Other Accidents	1	1	2	3	2	3	—	—	2	2	2	1	1	3	4	7	2	2	1	—
BE49 Suicide and Self-Inflicted Injuries	1	—	1	1	1	—	1	—	3	1	1	—	—	—	2	—	1	—	—	—
BE50 All Other External Causes	—	1	—	—	—	—	—	—	—	—	1	—	1	—	—	1	—	1	—	—
TOTAL ALL CAUSES	88	69	225	260	132	138	23	34	132	143	210	165	210	211	255	245	103	82	10	6
LIVE BIRTHS—Total	190	170	314	292	148	143	21	32	184	187	263	269	339	302	367	351	175	153	13	8
Legitimate	167	161	304	282	136	138	21	32	181	179	253	260	323	283	353	325	163	144	13	8
Illegitimate	23	9	10	10	12	5	—	—	3	8	10	9	16	19	14	26	12	9	—	—
STILLBIRTHS—Total	5	3	4	4	—	1	—	—	4	2	5	2	5	4	5	4	1	2	1	—
Legitimate	3	3	4	4	—	1	—	—	3	2	5	2	5	4	5	4	1	2	1	—
Illegitimate	2	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—
DEATHS OF INFANTS—Total (under one year of age)	6	4	4	2	1	1	—	—	2	2	8	3	6	7	11	7	4	4	—	—
Legitimate	6	4	4	2	1	1	—	—	2	2	7	3	5	6	11	6	4	4	—	—
Illegitimate	—	—	—	—	—	—	—	—	—	—	1	—	1	1	—	1	—	—	—	—
DEATHS OF INFANTS—Total (under 4 weeks of age)	5	2	4	—	1	—	—	—	—	1	8	2	5	6	8	5	3	3	—	—
Legitimate	5	2	4	—	1	—	—	—	—	1	7	2	4	5	8	5	3	3	—	—
Illegitimate	—	—	—	—	—	—	—	—	—	—	1	—	1	1	—	—	—	—	—	—
DEATHS OF INFANTS—Total (under one week of age)	3	2	3	—	1	—	—	—	—	1	7	2	5	5	7	4	3	3	—	—
Legitimate	3	2	3	—	1	—	—	—	—	1	6	2	4	4	7	4	3	3	—	—
Illegitimate	—	—	—	—	—	—	—	—	—	—	1	—	1	1	—	—	—	—	—	—
LIVE BIRTHS—Rate per 1,000 population	16.8		17.9		16.7		13.6		13.9		16.3		15.4		17.2		19.4		14.1	
STILLBIRTHS—Rate per 1,000 total births	22		13		3		—		16		13		14		12		9		45	
INFANTILE MORTALITY—(Deaths under one year) Rate per 1,000 live births	28		10		7		—		11		21		20		25		24		—	
PERINATAL MORTALITY—(Stillbirths and deaths under 1 week) Rate per 1,000 total births	35		18		7		—		19		30		29		28		27		45	
DEATHS ALL AGES—Rate per 1,000 population	7.3		14.3		15.5		14.6		10.3		11.5		10.1		12.0		10.9		10.7	
MID-1968 POPULATION	21410		33890		17400		3910		26780		32600		41660		41750		16930		1490	
ACREAGE 1-4-1968	46103		43491		38666		2208		72533		100869		57014		40633		62591		11855	

BE47 Motor Vehicle Accidents	3	2	2	4	1	1	—	4	—	—	—
BE48 All Other Accidents	1	1	2	3	2	3	—	2	2	1	—
BE49 Suicide and Self-Inflicted Injuries ...	1	—	1	1	1	—	1	1	—	—	—
BE50 All Other External Causes	—	1	—	—	—	—	—	—	1	—	—
TOTAL ALL CAUSES	88	69	225	260	132	138	23	03	82	10	
LIVE BIRTHS—Total	190	170	314	292	148	143	21	75	153	13	
Legitimate	167	161	304	282	136	138	21	63	144	13	
Illegitimate	23	9	10	10	12	5	—	12	9	—	—
STILLBIRTHS—Total	5	3	4	4	—	1	—	1	2	1	—
Legitimate	3	3	4	4	—	1	—	1	2	1	—
Illegitimate	2	—	—	—	—	—	—	—	—	—	—
DEATHS OF INFANTS—Total ... ... (under one year of age)	6	4	4	2	1	1	—	4	4	—	—
Legitimate	6	4	4	2	1	1	—	4	4	—	—
Illegitimate	—	—	—	—	—	—	—	—	—	—	—
DEATHS OF INFANTS—Total ... ... (under 4 weeks of age)	5	2	4	—	1	—	—	3	3	—	—
Legitimate	5	2	4	—	1	—	—	3	3	—	—
Illegitimate	—	—	—	—	—	—	—	—	—	—	—
DEATHS OF INFANTS—Total ... ... (under one week of age)	3	2	3	—	1	—	—	3	3	—	—
Legitimate	3	2	3	—	1	—	—	3	3	—	—
Illegitimate	—	—	—	—	—	—	—	—	—	—	—
LIVE BIRTHS—Rate per 1,000 population ...	16.8		17.9		16.7		13.	19.4		14.1	
STILLBIRTHS—Rate per 1,000 total births ...	22		13		3		—	9		45	
INFANTILE MORTALITY—(Deaths under one year) Rate per 1,000 live births	28		10		7		—	24		—	
PERINATAL MORTALITY—(Stillbirths and deaths under 1 week) Rate per 1,000 total births	35		18		7		—	27		45	
DEATHS ALL AGES—Rate per 1,000 population	7.3		14.3		15.5		14.	10.9		10.7	
MID-1968 POPULATION	21410		33890		17400		391	16930		1490	
ACREAGE 1-4-1968	46103		43491		38666		220	62591		11855	

CAUSE OF DEATH		AGGREGATE OF URBAN DISTRICTS												AGGREGATE OF RURAL DISTRICTS										
		Total All Ages	Under 4 weeks	4 weeks and under 1 year	AGE IN YEARS 1—	5—	15—	25—	35—	45—	55—	65—	75 and over	Total All Ages	Under 4 weeks	4 weeks and under 1 year	AGE IN YEARS 1—	5—	15—	25—	35—	45—	55—	65—	75 and over
B3 Bacillary Dysentery, Amoebiasis	M	1	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—
	F	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
B4 Enteritis and Other Diarrhoeal Diseases	M	4	1	2	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	F	6	1	1	2	—	—	—	—	—	—	1	1	1	—	1	—	—	—	—	—	—	—	—	—
B5 Tuberculosis of Respiratory System	M	16	—	—	—	—	—	—	1	2	4	7	2	4	—	—	—	—	—	—	—	1	2	1
	F	4	—	—	—	—	—	—	1	—	—	2	1	1	—	—	—	—	—	—	—	1	—	—
B6 Other Tuberculosis, inc. Late Effects	M	3	—	—	—	—	—	—	—	—	2	—	1	1	—	—	—	—	—	—	—	1	—	—
	F	3	—	—	—	—	—	—	1	1	1	—	—	1	—	—	—	—	—	—	—	1	—	—
B11 Meningococcal Infection	M	1	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	F	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
B14 Measles	M	1	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	F	3	—	2	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
B17 Syphilis and its Sequelae	M	2	—	—	—	—	—	—	—	—	—	2	—	—	—	—	—	—	—	—	—	—	—	—
	F	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	1
B18 Other Infective and Parasitic Diseases	M	6	1	—	—	—	—	—	—	—	—	2	3	4	—	—	—	—	—	1	—	—	1	2
	F	7	1	1	1	—	—	1	—	1	—	1	1	4	—	—	—	—	—	—	—	—	1	3
B19(1) Malignant Neoplasm—Stomach	M	112	—	—	—	—	1	1	6	13	22	38	31	27	—	—	—	—	—	—	2	6	10	9
	F	113	—	—	—	—	—	—	1	7	14	32	59	20	—	—	—	—	—	—	—	4	7	9
B19(2) Malignant Neoplasm—Lung, Bronchus	M	377	—	—	—	—	—	1	10	41	122	151	52	81	—	—	—	—	—	2	10	29	28	12
	F	83	—	—	—	—	2	1	5	9	17	24	25	16	—	—	—	—	—	1	2	7	2	4
B19(3) Malignant Neoplasm—Breast	M	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	1
	F	149	—	—	—	—	—	3	7	19	44	45	31	38	—	—	—	—	—	2	8	11	10	7
B19(4) Malignant Neoplasm—Uterus	F	60	—	—	—	—	—	—	6	16	16	11	11	17	—	—	—	—	—	1	3	4	3	6
B19(5) Leukaemia	M	22	—	—	—	4	1	—	1	2	6	3	5	5	—	1	—	1	—	—	—	—	2	1
	F	24	—	—	1	4	—	—	1	1	7	6	4	8	—	—	—	1	—	1	1	2	1	2
B19(6) Other Malignant Neoplasms, etc.	M	455	—	—	3	1	3	6	22	40	106	147	127	130	—	—	—	2	1	—	1	4	12	22	50	38
	F	427	—	—	1	—	4	9	17	33	91	139	133	115	—	—	—	—	1	2	4	3	9	23	30	43
B20 Benign and Unspecified Neoplasms	M	12	—	—	1	1	—	—	1	3	2	2	2	5	—	—	—	—	—	—	—	—	1	2	2	—
	F	11	1	—	—	—	—	1	—	2	3	2	2	4	1	—	—	—	—	—	1	—	—	—	2	—
B21 Diabetes Mellitus	M	20	—	—	—	—	—	—	—	1	4	9	6	14	—	1	—	—	—	—	—	2	2	4	5
	F	56	—	—	—	—	1	1	2	3	6	16	27	19	—	—	—	—	—	—	—	—	3	5	11
B22 Avitaminoses, etc.	M	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	F	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	1
B46(1) Other Endocrine etc. Diseases	M	8	1	—	1	—	1	—	—	2	—	1	2	3	—	—	—	—	—	—	—	—	1	2	—
	F	14	—	—	1	1	—	—	—	1	3	6	2	10	—	—	—	—	—	—	3	1	3	3
B23 Anaemias	M	9	—	1	—	—	—	—	—	—	2	4	2	3	—	—	—	—	—	—	—	1	2	—
	F	18	—	—	—	—	1	—	—	1	1	7	8	10	—	—	—	—	—	—	—	1	—	9
B46(2)Other Diseases of Blood, etc.	M	1	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—
	F	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
B46(3) Mental Disorders	M	3	—	—	—	—	—	—	—	—	—	1	2	1	—	—	—	—	—	—	—	—	—	—	1
	F	17	—	—	—	—	—	—	—	1	2	5	9	6	—	—	—	—	—	—	—	1	1	4
B24 Meningitis	M	5	2	—	1	—	—	—	—	2	—	—	—	1	—	—	—	—	—	—	—	—	1	—
	F	1	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—
B46(4) Other Diseases of Nervous System, etc.	M	50	1	2	2	1	5	2	1	6	7	8	15	11	—	—	1	—	—	1	1	—	2	5	1
	F	58	—	2	—	—	4	—	3	3	8	18	20	10	—	1	—	—	—	1	—	1	4	2	1
B25 Active Rheumatic Fever	M	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	F	1	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—
B26 Chronic Rheumatic Heart Disease	M	31	—	—	—	—	—	2	3	5	11	5	5	6	—	—	—	—	—	—	—	—	3	3
	F	72	—	—	—	—	—	2	4	12	20	14	20	24	—	—	1	—	—	—	1	7	9	6
B27 Hypertensive Disease	M	59	—	—	—	—	—	—	—	4	12	19	24	18	—	—	—	—	—	—	—	4	5	9
	F	87	—	—	—	—	—	—	—	—	11	21	55	24	—	—	—	—	—	1	—	—	4	6	13
B28 Ischaemic Heart Disease	M	1291	—	—	—	—	—	4	37	126	364	421	339	371	—	—	—	—	—	—	9	30	92	132	108
	F	891	—	—	—	—	—	3	8	26	90	268	496	231	—	—	—	—	—	—	1	7	25	60	138
B29 Other Forms of Heart Disease	M	158	—	—	—	—	—	—	4	4	19	39	92	80	—	—	—	1	1	—	—	4	7	26	41
	F	273	—	1	1	—	—	—	2	7	12	39	211	86	—	—	1	—	—	—	—	2	5	19	59
B30 Cerebrovascular Disease	M	576	—	—	1	1	—	4	6	21	89	196	258	154	—	—	—	—	—	—	1	—	10	29	41	73
	F	906	—	—	—	1	—	1	4	22	88	222	568	251	—	—	—	—	—	—	—	3	4	17	61	166
B46(5) Other Diseases of Circulatory System	M	159	—	—	—	—	—	—	2	5	12	54	86	71	—	—	—	—	—	—	—	1	7	9	11	43
	F	237	—	—	—	—	—	2	2	5	18	42	168	75	—	—	—	—	—	1	1	1	3	9	60
B31 Influenza	M	22	—	—	—	—	—	—	—	1	2	7	12	6	—	—	1	—	—	—	—	—	—	3	2
	F	40	—	—	—	—	—	—	1	1	4	1	33	8	—	—	—	—	—	—	—	1	1	4	2
B32 Pneumonia	M	270	8	9	4	1	—	—	3	10	24	63	148	71	1	—	1	1	—	—	1	4	7	17	39
	F	367	1	6	3	—	1	3	—	8	22	71	252	108	—	4	1	—	1	—	1	4	5	21	71
B33(1) Bronchitis and Emphysema	M	332	—	—	—	—	—	—	2	14	69	132	115	101	—	—	—	—	—	—	—	2	20	44	35
	F	155	—	1	1	—	—	—	—	6	16	46	85	28	—	—	—	—	—	—	—	—	3	11	14
B33(2) Asthma	M	9	—	—	1	—	—	—	1	1	3	2	1	3	—	—	—	—	—	—	—	2	1	—
	F	14	—	—	—	2	—	2	1	2	5	2	—	6	—	—	—	—	1	1	2	—	2	—
B46(6) Other Diseases of Respiratory System	M	30	1	5	1	—	1	—	1	2	5	1	13	12	1	1	1	—	—	1	—	1	1	6
	F	35	—	7	1	—	—	—	—	2	6	5	14	12	—	2	1	—	—	—	1	2	1	5
B34 Peptic Ulcer	M	40	—	—	—	—	—	—	—	2	8	19	11	11	—	—	—	—	1	—	—	3	1	6
	F	26	—	—	—	—	—	—	—	—	4	8	14	6	—	—	—	—	—	—	—	—	—	3	3
B35 Appendicitis	M	1	—	—	1	—	—	—	—	—	—	—	—	2	—	—	—	—	—	—	—	—	—	—	2
	F	2	—	—	—	—	—	—	—	—	1	1	—	2	—	—	—	—	—	—	—	1	—	—	1
B36 Intestinal Obstruction and Hernia	M	17	2	1	—	—	—	—	—	1	2	4	7	5	—	—	—	—	—	—	—	—	2	2	2
	F	22	1	1	—	—	—	—	—	—	1	6	13	5	—	—	—	—	—	—	—	1	2	2	3
B37 Cirrhosis of Liver	M	9	—	—	—	—	—	—	—	2	4	2	1	3	—	—	—	—	—	—	—	—	1	1	2
	F	14	—	—	—	—	—	—	—	3	4	4	3	4	—	—	—	—	—	1	—	1	1	1
B46(7) Other Diseases of Digestive System	M	33	—	—	—	—	1	1	2	—	9	12	8	11	—	1	—	—	—	—	—	2	2	2	4
	F	53	—	—	—	1	—	—	1	3	8	18	22	17	—	—	—	1	—	—	—	3	3	1	9
B38 Nephritis and Nephrosis	M	33	—	—	—	—	1	5	1	6	9	4	7	6	—	—	—	—	—	—	—	1	—	1	4
	F	17	—	—	—	1	—	1	2	2	2	6	3	11	—	—	—	—	—	—	1	1	2	5	2
B39 Hyperplasia of Prostate	M	25	—	—	—	—	—	—	—	—	1	3	21	14	—	—	—	—	—	—	—	1	1	1	11
B46(8) Other Diseases, Genito-Urinary System	M	30	—	—	—	—	1	—	2	1	2	10	14	10	—	—	—	—	—	—	—	1	—	2	7
	F	40	—	—	—	—	—	1	1	—	4	10	24	16	—	1	—	—	—	1	—	—	—	5	9
B41 Other Complications of Pregnancy, etc.	F	1	—	—	—	—	—	—	1	—	—	—	—	1	—	—	—	—	—	1	—	—	—	—	—
B46(9) Diseases of Skin, Subcutaneous Tissue	M	1	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	2
	F	3	—	—	—	—	—	1	—	—	—	1	1	2	—	—	—	—	—	—	—	—	—	3	—
B46(10) Diseases of Musculo-Skeletal System	M	13	—	—	—	—	1	—	—	2	3	4	3	3	—	—	—	—	—	—	1	2	3	3	5
	F	32	—	—	—	1	—	1	—	1	2	9	18	14	—	—	—	—	—	—	—	—	—	—	—
B42 Congenital Anomalies	M	30	15	5	4	3	—	—	1	—	2	—	—	20	9	4	2	2	2	1	—	1	—	1	—
	F	46	20	10	2	6	—	—	2	3	—	2	1	13	4	2	2	2	—	—	1	—	—	—	—
B43 Birth Injury, Difficult Labour, etc.	M	45	45	—	—	—	—	—	—	—	—	—	—	12	12	—	—	—	—	—	—	—	—	—	—
	F	20	20	—	—	—	—	—	—	—	—	—	—	5	5	—	—	—	—	—	—	—	—	—	—
E44 Other Causes of Perinatal Mortality	M	46	44	2	—	—	—	—	—	—	—	—	—	10	10	—	—	—	—	—	—	—	—	—	—
	F	23	23	—	—	—	—	—	—	—	—	—	—	9	9	—	—	—	—	—	—	—	—	—	32
E45 Symptoms and Ill-Defined Conditions	M	57	—	—	—	—	1	—	—	—	1	2	53	32	—	—	—	—	—	—	—	—	—	4	64
	F	122	—	—	—	—	—	—	—	—	—	5	117	68	—	—	—	—	—	—	—	—	—	—	—
BE47 Motor Vehicle Accidents	M	70	—	—	2	7	20	10	5	8	7	3	8	35	—	—	—	1	13	6	5	2	5	1	2
	F	35	—	—	2	3	4	1	3	1	4	9	8	18	—	—	1	—	7	1	—	—	5	2	2
BE48 All Other Accidents	M	63	1	9	2	4	4	4	6	4	9	10	10	17	1	—	1	1	1	—	1	4	2	4	4
	F	67	—	5	4	1	2	1	1	6	10	11	26	22	—	—	2	—	—	1	1	2	1	3	12
BE49 Suicide and Self-Inflicted Injuries	M	31	—	—	—	—	2	1	7	5	7	5	4	11	—	—	—	—	—	1	1	2	1	2	2
	F	30	—	—	—	—	4	2	5	1	10	4	4	2	—	—	—	—	—	—	—	1	—	—	1
BE50 All Other External Causes	M	14	—	1	—	—	1	2	3	3	3	1	—	2	—	—	—	—	1	—	1	—	—	—	—
	F	5	—	—	—	—	—	1	1	1	1	1	—	3	—	—	—	—	—	—	1	—	—	2	—
TOTAL ALL CAUSES	M	4603	123	38	25	23	44	43	128	339	954	1395	1491	1388	34	8	9	7	18	13	29	97	255	410	508
	F	4690	68	37	21	21	23	38	83	210	556	1142	2491	1353	19	11	9	5	10	12	22	60	151	302	752

	F	155	—	1	1	—	3	11	14
2) Asthma	M	9	—	—	1	—	2	1	—
	F	14	—	—	—	2	—	2	—
6) Other Diseases of Respiratory System	M	30	1	5	1	—	1	1	6
	F	35	—	7	1	1	2	1	5
Peptic Ulcer	M	40	—	—	—	—	3	1	6
	F	26	—	—	—	—	—	3	3
Appendicitis	M	1	—	—	1	—	—	—	2
	F	2	—	—	—	—	1	—	1
Intestinal Obstruction and Hernia ...	M	17	2	1	—	—	1	2	2
	F	22	1	1	—	—	—	2	3
Cirrhosis of Liver	M	9	—	—	—	—	—	1	2
	F	14	—	—	—	—	1	1	1
7) Other Diseases of Digestive System ...	M	33	—	—	—	2	2	2	4
	F	53	—	—	—	3	3	1	9
Nephritis and Nephrosis	M	33	—	—	—	1	—	1	4
	F	17	—	—	—	1	2	5	2
Hyperplasia of Prostate	M	25	—	—	—	1	1	1	11
8) Other Diseases, Genito-Urinary System	M	30	—	—	—	1	—	2	7
	F	40	—	—	—	—	—	5	9