

A REVIEW OF THE

PHLS COMMUNICABLE DISEASE SURVEILLANCE CENTRE

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EPIDEMIOLOGY IN THE PHLS

One of the main reasons for the creation of the Emergency PHLS in 1939 was to provide a national laboratory service for the rapid detection of incidents of infectious disease, especially those geographically widespread, so that prompt investigation could take place and control measures implemented. Thomson emphasised this epidemiological role.¹

"Most important of all, the organisation of public health laboratories on a national basis is a means of providing an epidemiological intelligence network covering the whole country".

When the PHLS was made permanent by the National Health Service Act 1946, Section 17, its function was prescribed; 'to provide a bacteriological service, which may include the provision of laboratories, for the control of the spread of infectious disease' but the Act did not prescribe the epidemiological function of the Service. The subsequent Public Health Laboratory Service Act, 1960, which transferred responsibility for the Service from the Medical Research Council to the PHLS Board, and the National Health Service Act, 1977, which incorporated the Board, similarly limited the function of the Service to the provision of a laboratory service.

Despite this absence of statutory recognition of the essential epidemiological purpose of the PHLS, the medical microbiologists of the Service provided substantial epidemiological support and co-ordination to medical officers of health (MOH) in the investigation and control of outbreaks of communicable disease in the community, as well as themselves taking responsibility for the control of hospital infection in their districts and contributing to the development of the national surveillance system of communicable disease based on reports of laboratory confirmed infection.

The need for specialist epidemiologists in the PHLS to undertake the analysis and interpretation of centrally collected laboratory data, to organise and carry out epidemiological surveys and field trials of vaccines and to assist in the field investigation of disease, led to the creation of a central epidemiological unit in 1946.² This unit which was named the Epidemiological Research Laboratory (ERL), a name chosen to avoid any suggestion of encroachment on the field of work of the MOH, enabled the PHLS to make major contributions to the epidemiology and control of many infections. For example, national studies on salmonellosis, paratyphoid B fever, enterovirus infections and respiratory virus infections were made, and the Unit gained international recognition for its work in field trials of vaccines and vaccine surveillance.

In the early 1950s it was planned to increase the epidemiological capability of the Service by the establishment of specialist epidemiological posts in regional public health laboratories, so-called 'regional epidemiologists'³ but this was opposed by MOsH. The proposal was revived again in the late 1960s and a training programme set-up⁴, but again these posts were opposed by many MOsH and also by some public health laboratory directors, so that although four posts were created, only one in Cardiff remained in 1986.

The need for a national centre for disease surveillance and control, evident in the 1960s⁵ was highlighted by an outbreak of smallpox in London in 1973. The recommendations of the Committee of Inquiry into the outbreak

later lead to the establishment of the Communicable Disease Surveillance Centre (CDSC) within the PHLS in 1977, with responsibility for the national surveillance of communicable disease and for the investigation and control of communicable disease nationally⁷. These national functions which were transferred from the Department of Health and Social Security (DHSS) and the Welsh Office in October 1977, increased the epidemiological role of PHLS from primarily one of epidemiological intelligence to a greater involvement in active disease control, but this change was accompanied by only limited additional resources of £40,000 per year (£100,000 at 1986 prices). Furthermore, the new epidemiological role of PHLS, although promulgated by official circular⁸ did not receive statutory recognition. The subsequent Public Health Laboratory Service Act 1979 which enabled PHLS to assume responsibility for part of the Microbiological Research Establishment, now known as the Centre for Applied Microbiology and Research, with appropriate funding, made no reference to the new epidemiological functions of the Service. Six years later, in 1985, the DHSS Review Team of PHLS failed to appreciate these functions and consequently reached the erroneous conclusion that the primary diagnostic laboratories of PHLS could equally well be managed by separate National Health Service health authorities rather than the PHLS⁹. It is not surprising, therefore, that it was not at first understood either within PHLS or outside, that the new epidemiological functions of the Service required additional resources.

In January 1983, the PHLS Board established a Strategic Review Working Party on Epidemiology "to consider the epidemiological services, centrally and peripherally, needed to enable PHLS to fulfil its function and to make recommendations". The Working Party reported in June 1983, recommending additional staffing in CDSC to meet the need for training of community physicians and microbiologists and to increase the Centre's capability to assist in outbreak investigation. A recommendation was made for a more sophisticated data handling system to improve surveillance based on laboratory data and to enable regional statistics to be provided on a weekly basis. Finally the merger of CDSC and ERL was recommended and this was accepted by the Board in January 1984 - the only recommendation it felt able to implement. Indeed, the Board envisaged this amalgamation as a means of saving money by making economies in staffing.

In July 1984 CDSC was subjected to another detailed review of its activities as part of the DHSS review of the Public Health Laboratory Service with the following terms of reference: "to review the effective, efficient and economic operation of the Public Health Laboratory Service, including its functions, and its most appropriate organisation and staffing in terms of numbers, grades and manpower costs". The report of the review team in 1985 also recommended that "CDSC increases the number of SCMs (Epidemiologists) available centrally in order to be able to undertake more investigations and accelerate the short attachment scheme. We do not suggest a predetermined number of new appointments is contemplated but that initially a single new appointment is made and that thereafter resources are gradually increased to such demand". Again, this recommendation was not implemented.

In 1985 the staff of the Centre were almost overwhelmed by commitments to the surveillance programme of the acquired immune deficiency syndrome, the detailed investigation of a large hospital outbreak of legionnaires' disease in Stafford, the planning of acellular pertussis vaccine trials as well as continuing more routine work. Indeed, if another important outbreak had taken place at this time, CDSC would not have been able to provide assistance.

At the PHLS Board meeting on 24 April 1986 a major policy change was made to strengthen the epidemiological component of PHLS. This report describes the functions of CDSC, reviews the work of the Centre in its first 10 years and that of the former ERL since 1977, describes the organisation and staffing of the Centre, and makes suggestions on how the Board's new policy might be implemented in the next five years 1986/87 to 1991/92.

FUNCTIONS OF CDSC

The CDSC was set up by PHLS on behalf of DHSS and Welsh Office in January 1977 to provide 'a highly active information and co-ordinating centre' for the surveillance and control of infectious disease in support of medical officers for environmental health (MOEH) and other local authority staff and health authority staff concerned with disease control.⁶ Early in 1978 a training programme for medical epidemiologists was established at the Centre so that when the DHSS circular was issued in 1980⁸ three main functions were described: "1) Surveillance and control of outbreaks, 2) information, and 3) teaching."

When the PHLS Board decided on the merger of ERL with CDSC, the functions were extended and listed differently: "1) National surveillance of communicable disease, 2) evaluation and monitoring of vaccines and immuno-globulins, 3) investigation and control of communicable disease, 4) longer term surveillance and research, 5) training and teaching, and 6) provision of statistics and epidemiological data."

This listing of functions is confusing and incomplete. First, 'national surveillance of communicable disease' includes 'longer term surveillance' and the 'provision of statistics and epidemiological data'. Second, evaluation and monitoring of vaccination programmes in addition to the vaccines themselves, is not included. A different classification of functions is, therefore, used in this review.

1. The national surveillance of communicable disease.
2. The investigation and control of infectious disease nationally.
3. National surveillance of immunisation programmes.
4. Epidemiological research.
5. Training and teaching.

NATIONAL SURVEILLANCE OF COMMUNICABLE DISEASE

With the advent of CDSC, PHLS became responsible to the Chief Medical Officers of England and of Wales for the national surveillance of communicable disease, a function hitherto performed by the department's own medical staffs⁸ and by ERL.

Definition

The continued watchfulness over the distribution and trends in infection and disease in the population.

Objectives

There are six main objectives: (1) The early detection of changes in the pattern of disease and infection so that prompt preventive action may be taken. (2) The epidemiological description of disease and monitoring long term trends to assess the need for intervention. (3) Evaluation of preventive measures. (4) Provision of information about prevalent infections. (5) Collation of data on rare diseases to provide a national database for research. (6) Early recognition of new diseases.

Method

This involves: (1) The systematic collection of data by routine reporting systems, by specially designed epidemiological surveys or by ad hoc reports. (2) The collation and analyses of these data to produce statistical tabulations and their interpretation to provide information. (3) Distribution of this information to all those who require it for action. (4) The final stage in surveillance is the evaluation of this action.

- (i) Data collection. CDSC relies heavily on routine data collecting systems for surveillance. These include death registration and certification, and statutory notification of infectious disease managed by the Office of Population Censuses and Surveys (OPCS) and from which data are provided weekly to CDSC; hospital in-patient data derived from Hospital Activity Analysis also provided by OPCS, but only annually or in response to specific requests; general practitioner reports provided weekly by the Royal College of General Practitioners (RCGP) Research Unit in Birmingham from about 70 practices with a total practice population of about 200,000; weekly reports of laboratory diagnosed infections from the 52 PHLS laboratories, which contribute about half the data, and from about 350 National Health Service laboratories to CDSC.

The laboratory reporting system is the most valuable of these data collecting systems because it provides precise data based on microbiological diagnoses and fine typing of the causative organisms, detailed data including possible sources of infection, and the system is flexible, allowing for free text comment by medical microbiologists. However, the system has deficiencies: first, there are no denominators either of specimens examined or population sampled; second, the data requested in some infections are so detailed that this militates against routine reporting and, third, it is at present not possible to make use of the output of laboratory computers to reduce the clerical tasks involved.

(ii) Data analysis and collation. The laboratory data are hand sorted and analysed weekly at CDSC. Weekly manual work sheets are kept for some infections, such as salmonellosis, and four weekly for others, such as the common respiratory and enteroviruses. Line listings or card indices are maintained for some less common infections such as typhoid fever, in which laboratory data and other sources of data are collated. Only the laboratory data are computerised, and here data input is time consuming involving coding and card punching for entry on another site into the North West Thames Regional Health Authority computer. The analyses provided are inflexible and there are no facilities for ad hoc interrogation. Statistics from all the other collecting systems are maintained in standard tabulations in a manual filing system by disease.

(iii) Information distribution. The main regular information output is the weekly Communicable Disease Report (CDR) distributed free of charge to about 4,500 persons in the UK and about 500 abroad who have responsibilities for or interests in communicable disease control. A flow diagram is shown in Appendix 1. The CDR is a confidential report on private circulation and is not published. It is not, therefore, currently available to the press, media or other lay persons. The CDR comprises news of current trends or episodes of communicable disease, standard tabulations with comment on a weekly or four-weekly cycle, listing of some laboratory data and reports of topical interest.

All the data provided weekly are national data for England and Wales combined; no data are currently provided by NHS regions and Wales on a weekly basis.

Quarterly tabulations are produced in the Quarterly CDR, articles and notes are published frequently in the British Medical Journal and quarterly in 'Community Medicine'. An annual review is published jointly with OPCS, but is not usually produced until at least 12 months after the year to which it refers. Periodic reviews and articles are published in the medical press.

A continuous 24 hour service is provided for information and advice to enquirers by telephone and staff respond to ad hoc enquiries by post. There are approximately 200 telephone calls per week, including 10 per week during evenings and weekends and an average of 2 to 3 letters daily requesting information. Although the Centre has telex and facilities for facsimile transmission, rapid communication with most public health laboratories, regional medical officers and MOsEH, is not available because they are not similarly equipped. This deficiency is especially apparent when there is need for urgent and accurate dissemination of information.

The Centre maintains close liaison with the World Health Organization (WHO) in Geneva and Copenhagen and with national epidemiological units in other countries, although formal overseas contacts are through the DHSS.

Specific surveillance programmes

The main surveillance programmes are listed in Appendix 2. In order to illustrate the surveillance function of CDSC, some of the most important of these programmes are described below.

Acquired immune deficiency syndrome (AIDS) The national surveillance of AIDS was begun by CDSC in the summer of 1982 using three sources of data, first, mortality data from OPCS, second, laboratory reports of opportunistic infections and, third, most importantly, a new clinical reporting system mainly from genito-urinary physicians. With the development of human immunodeficiency virus (HIV) antibody tests during 1984, a fourth source of data, laboratory reports of positive tests became available in 1985. These data have described the evolution of the epidemic of AIDS, 610 cases were reported by the end of December 1986, most of them by clinicians in the London area, although the place of residence of some of them may have been elsewhere; 538 (89%) of cases were in homosexual or bisexual men, although 18 cases had been reported in which heterosexual transmission seemed the most likely mode of spread, 4 of them acquiring the disease in the UK. It is, however, difficult to validate the reporting system and to ensure complete reporting of cases, especially of those not in recognised 'risk' groups which may present to clinicians outside the speciality of genito-urinary medicine.

Nearly 4,000 antibody positive tests were reported with a similar geographical and 'risk' group distribution to cases of AIDS; however, these data had no denominators and it was difficult therefore to interpret any trends over time or in the distribution of risk groups.

Another important development in the surveillance of HIV infection was the establishment in 1985 of a scheme with the Association of Medical Microbiologists for the national reporting and follow-up of health care staff accidentally exposed to infection. Up until the end of December 1986, 150 exposures were reported, half of them needlestick or other sharp injuries. No infection took place in a median follow-up period of 11 months.

Paediatric disease surveillance. A clinical reporting system of Reye's syndrome from paediatricians was set up with the co-operation of the British Paediatric Association (BPA) in 1982. This enabled the epidemiology of the syndrome in the British Isles to be described, demonstrating a similar incidence (0.7 per 100,000), but a younger age distribution (median 15 months) than in the United States of America (USA) and no clear seasonal variation. Proportionately more cases were reported from Northern Ireland than other parts of the British Isles. Four special studies were based on this surveillance scheme. First, an epidemiological risk factor study which showed an association with aspirin medication which led to the withdrawal of junior aspirin. Second, a population based study of incidence. Third, a follow-up study of survivors to determine the long term outcome. And fourth, a review of histological specimens collected as part of the surveillance scheme.

In 1986 this scheme was extended by the creation of the British Paediatric Surveillance Unit, jointly between the Department of Epidemiology of the Institute of Child Health, CDSC and the BPA. Beginning in June 1986, eight conditions were included, AIDS in childhood, neonatal herpes, Reye's syndrome, Kawasaki disease, haemolytic uraemic syndrome, haemorrhagic shock and encephalopathy syndrome, subacute sclerosing panencephalitis and x-linked anhydrotic ectodermal dysplasia.

A further research programme, a study of the role of verotoxin producing strains of *Escherichia coli* in the aetiology of haemolytic uraemic syndrome was begun with the PHLS Division of Enteric Pathogens and British Association of Paediatric Nephrologists, partly based on this surveillance scheme.

Influenza surveillance. This surveillance programme developed by ERL in the 1960's and 1970's was carried out during the winter months of each year based upon laboratory reports of influenza A and B infections, consultation rates for 'epidemic influenza' in the RCGP reporting practices, national mortality data provided by OPCS of total deaths, influenza deaths and deaths from bronchitis and pneumonia. These indices were monitored weekly and did not demonstrate any major influenza activity since 1976/1977.

Because these indices did not adequately detect and measure influenza in childhood, a clinical reporting system was began in 1980 jointly with the Medical Officers of Schools Association. Initially funded by the DHSS, this scheme enabled school outbreaks of influenza to be detected, including in 1986 the appearance of a new variant of influenza A, as well as other outbreaks of infectious disease which were then more fully investigated. These included several outbreaks of campylobacter enteritis and an unusual outbreak of streptobacillary fever. Periodic reports on influenza surveillance were made in the CDR together with annual reviews.

Legionnaires' disease surveillance. This was based on laboratory reports of serological or culture confirmed infections to CDSC. Following the receipt of a report a special enquiry was made by postal questionnaire to the reporting microbiologist to obtain epidemiological details, particularly of occupation, travel and visits to hospital. These data were then recorded in a register by date of onset by country, town and hotel and in a card index by name of the patient. When two or more cases associated with the same premises were detected, even if at widely separated times, further enquiries were made, usually leading to a field investigation. Travel associated cases linked to premises in other countries were reported to the Ministry of Health or National Epidemiological Unit in the country concerned.

By the end of 1985 over 1200 cases had been reported enabling the epidemiology of the disease in Britain to be described. About two and a half times as many men were affected than women and over 40 percent of the cases were more than 60 years old. There was a seasonal peak in September, most evident in the travel-associated cases. Altogether 37 per cent of cases were infected abroad. Of particular importance was the detection of 34 clusters of 2 or more cases associated with hotels, which enabled early investigation and the application of control measures; 31 of these clusters comprising 168 cases, were overseas. In England and Wales there were 9 case clusters detected in association with hospitals comprising 99 cases, the largest of these was an outbreak in Stafford in 1985 of at least 67 cases.

Surveillance of typhoid and paratyphoid fevers. Cases were detected by requests for phage typing to the PHLS Division of Enteric Pathogens, laboratory reports to CDSC and by statutory notifications reported to OPCS. These data were then linked and a telephone enquiry made or a postal questionnaire was sent to the MOEH or other doctor concerned with each case to obtain details of country and place of infection and possible vehicles of infection. Further enquiries and, if necessary, field investigation were usually initiated by the discovery of several cases

with the same phage type at or about the same time, or instigated at the request of MOsEH. The completed questionnaires were analysed manually to provide quarterly reports by country of infection.

In the decade 1976-1985 there were about 200 cases of typhoid fever per year, in 85 per cent of which the infection was acquired abroad and about 50 cases a year each of paratyphoid A & B fevers most of which were contracted abroad. In many of the indigenous infections the source was not identified with certainty but often they were in the households of immigrant families and probably associated with undetected carriers. A few cases were occupationally associated and food-borne disease was very unusual.

Food poisoning surveillance. Data were collected by the laboratory reporting of the precise microbial cause of food poisoning. Less specific data were derived from statutory notifications reported to OPCS. Additional data were provided by outbreak reports from laboratories, MOEsH and environmental health officers. Weekly totals of reports of salmonellas and other organisms were maintained so that any increases which might require investigation could be readily detected. A card index was maintained of all outbreaks. Weekly reports were provided in the CDR with a regular annual review, usually published in the British Medical Journal. When outbreaks arose in or involved other countries details were provided through the WHO to other countries concerned.

Many outbreaks were detected and investigated; some of these were only identified by national surveillance, such as an outbreak of salmonellosis due to chocolate (see below) and another due to dried baby milk.

Overall, there was almost a fifty percent rise in reported food poisoning between 1975 and 1986 mostly due to an increase in salmonellosis. The increase was most evident in infections due to *S. typhimurium*, especially in phage types of this organism associated with infection in bovines, but the cause of the increase was not determined.

INVESTIGATION AND CONTROL OF COMMUNICABLE DISEASE

Following the setting up of CDSC by PHLS in 1977 the Centre assumed responsibility on behalf of the Chief Medical Officers of the DHSS and Welsh Office to advise on the control of outbreaks, formerly undertaken by medical officers in DHSS, for co-ordination of outbreak control and for assistance in field investigation.

Objectives To provide advice, assistance and co-ordination through the PHLS in the investigation and control of communicable disease.

Method Requests for advice were received by CDSC senior staff, either directly or through a senior registrar duty doctor during working hours. Out of hours the senior staff maintained an on-call rota. CDSC became aware of acute episodes of disease, first, by such requests; second, by informal reports from community physicians, microbiologists, environmental health officers and others; third, by formal reports from MOsEH who are required to inform CDSC of certain episodes of infection;^{8,10} and, fourth, by detecting changes in the pattern of disease in the surveillance systems already discussed, indeed, sometimes these systems were the only means of detecting geographically widespread outbreaks of disease.

CDSC has a duty to respond to requests for field epidemiological assistance from MOsEH. These requests and acute episodes detected by other means, were assessed by senior staff, particularly the consultant epidemiologist with responsibility for field investigation in consultation with the local PHLS laboratory director, to decide on the deployment of epidemiologist(s) and other means of assistance through the PHLS. Usually if field assistance was considered appropriate, one or more senior registrars were deployed to assist locally, under the overall supervision of the consultant epidemiologist field services, but working to the local MOEH or Hospital Control of Infection Officer.

The field investigations began with a preliminary enquiry to establish and confirm the diagnosis of the disease, to agree a 'case definition' for epidemiological purposes, to formulate a preliminary hypothesis of the source and spread of the disease and, if necessary, undertake immediate control measures. It was usual at this stage, especially in an important incident, for a local control committee to be formed, including in its membership a CDSC epidemiologist and a local PHLS microbiologist. The subsequent investigation comprised searching for further cases of the disease, collecting data from the cases and from a control group of exposed but unaffected persons, using a standard questionnaire and then analysing these data to confirm the source and mode of spread postulated as a result of the preliminary enquiry. The results of these investigations were then communicated promptly to all appropriate persons.

Field investigations sometimes directed attention to the need for further detailed epidemiological and microbiological studies and these formed a part of CDSC and PHLS research programmes. For example, investigations of outbreaks of legionnaires disease showed an association with cooling towers and piped-water systems which led to a PHLS study of factors which promote the growth of legionella in these towers and systems; an outbreak of *Salmonella* napoli due to chocolate was followed by research into the cost of the outbreak and the saving resulting from early intervention; investigation of outbreaks of erythema infectiosum (fifth disease) showed the aetiological role of parvovirus in this disease and led to a study of infection in pregnancy to find out if there were any teratogenic effects.

Some important field investigations

In the 10 years since CDSC was set up epidemiologists have assisted in 383 field investigations which are listed in Appendix 3. Six of them are described briefly here:

Smallpox Birmingham In August and September 1978 an outbreak of two cases of variola major took place associated with the smallpox laboratory in Birmingham University Medical School, nearly a year after the last naturally occurring case of smallpox in the world had been reported from Somalia. The index case was a 40 year old lady who worked as a photographer in the University Department of Anatomy, immediately above the smallpox laboratory. She became ill on 13 August and developed a rash two days later which was thought to be chickenpox; the diagnosis was not made until 24 August when she was admitted to hospital. She died 18 days later. The secondary case was the mother of the index case and became ill on the 7 September with modified smallpox, having been successfully vaccinated two weeks earlier. She recovered and was discharged from hospital on 22 September. The City was officially declared free of smallpox on 16 October.

CDSC deployed three regionally based epidemiologists to Birmingham to assist in tracing and surveillance of contacts throughout the incident and this was increased to six between 2 and 10 September when the main surveillance task fell; these included a CDSC senior registrar, an attached trainee registrar and a community physician seconded from the Communicable Diseases (Scotland) Unit. There were altogether 341 contacts, and without these skilled additional staff it would have been difficult for the Area Medical Officer and MOEH to have achieved the successful control of the incident.

CDSC set up a national control centre at Colindale on 25 August to coordinate tracing of contacts outside Birmingham and to provide a centre for national and international communication. A WHO medical officer was attached to this control centre for 10 days from 1 to 10 September. By 28 August all known close contacts had been traced, vaccinated and placed under surveillance, although it was some days before all the other contacts were located because many were on holiday in the UK and abroad. The control centre was manned daily throughout the incident and proved effective both in contact tracing and in providing the focus for national information and communication.

Hepatitis B Kent A report to CDSC in April 1978 of a notified case of infective jaundice from Chatham, in a young man who had been tattooed, led to an investigation which detected 34 cases of hepatitis B infection associated with a tattoo parlour in the same town. Most of the cases were in four different health districts in North and East Kent but two were in Yorkshire. The source of the outbreak was a young man who was tattooed at the parlour two weeks before the onset of jaundice when he was viraemic. It was considered that unhygienic tattooing practices resulted in the spread of virus by contamination of needles and other equipment. The outbreak was followed by a detailed study of the hygiene of tattooing and the production of a written code of hygienic practice for tattooing and other skin piercing practices. Subsequently, in consequence of this study, an Act of Parliament was passed giving powers to local authorities to inspect these premises and to ensure satisfactory standards of hygiene.

Salmonellosis and chocolate A rise in the number of laboratory reports of *Salmonella napoli* to CDSC prompted a field investigation of the cases which were scattered in South of England. This quickly identified

imported Italian chocolate as the possible vehicle of infection and this was confirmed by the isolation of the organism from the chocolate by several public health laboratories. Immediate withdrawal from sale of the chocolate took place. Altogether, nearly 250 cases of salmonellosis were reported which was probably only a small proportion of the total infected; there were 50 admissions to hospital. Because of the prompt withdrawal of the contaminated consignment after only one fifth of it had been sold, it is likely that many times this number of cases and hospital admissions were prevented.

Typhoid, Kos In the latter part of July 1984, 32 cases of typhoid due to organisms of the same unusual phage type identified by PHLS Division of Enteric Pathogens as degraded Vi strain 22, occurred in Britain. CDSC co-ordinated the interviewing by MOEH of all the British cases and found that they were all in persons who had stayed at the same hotel in the Greek Island of Kos in the first week of July. The food histories of the patients were compared with a control group of unaffected tourists who were resident in the hotel at the same time; this study identified salad at a particular meal as the likely vehicle of infection. Liaison with other European countries through the WHO lead to the discovery of 24 other cases, most of them in Scandinavia, who were known to have been resident in the hotel when the suspected meal was served. The PHLS Division of Enteric Pathogens had records of two previous single cases of typhoid fever of the same phage type associated with the hotel which suggested a continuing source. Indeed, investigations by the Greek health authorities revealed a chronic carrier of the same organism amongst the kitchen staff.

Legionnaires disease, Brighton Routine surveillance based on laboratory reports of confirmed cases of legionnaires disease identified two cases in July 1984, one in Yorkshire and one in south-west England, in persons who had stayed at the same hotel in Brighton. An immediate visit was made to the hotel with the MOEH concerned; appropriate specimens were collected and control measures introduced, including raising the temperature of the hot tap water and increasing the levels of chlorine to 1 to 2 parts per million. Subsequent active case searching and routine laboratory reports led to the discovery of altogether 26 cases of legionnaires disease and 7 of Pontiac fever. A case control study implicated whirlpools in the hotels swimming complex as the source of infection. No cases were identified in which the infection took place after the control measures were carried out. Without the national surveillance scheme this outbreak might have escaped detection for several months, if not altogether, and many further cases and even deaths might have occurred.

Legionnaires disease, Stafford The most notable outbreak of legionnaires disease in the UK took place in Stafford in April 1985. CDSC was informed of a possible outbreak of influenza and then of an outbreak of severe pneumonia and offered epidemiological assistance. The clinical features in the patients suggested legionnaires disease and this was soon confirmed by nearby public health laboratories which had also offered assistance. Altogether nearly 200 patients were admitted to hospital with pneumonia or chest infections and at least 67 of them were shown to have legionnaires disease. Epidemiological enquiry soon established that it was a hospital outbreak, associated mainly with the outpatient department, but subsequent detailed epidemiological studies were necessary to determine that the source was probably one particular cooling tower and to establish the mode of spread of contaminated aerosol from this tower. The outbreak was unique in that it was necessary to deploy five CDSC epidemiologists to Stafford during the first few days of the investigation, and then two full-time epidemiologists for nearly six months to undertake the ensuing epidemiological studies.

SURVEILLANCE OF IMMUNISATION PROGRAMMES

PHLS, including the former ERL have for 40 years played an active part in the surveillance of immunisation programmes, advised by the Medical Research Council's Committee on Development of Vaccines and Immunisation, and have provided support and information to DHSS and the Joint Committee of Vaccination and Immunisation. This function was transferred to CDSC on the merger with ERL in 1985. Unlike the previous two functions it is advisory to DHSS who retain the national responsibility in this field.

Objectives

To ensure the continual assessment of the efficacy, safety and uptake of the nationally recommended vaccination and immunisation programmes.

Method

The efficacy of vaccination and immunisation programmes was assessed by the surveillance of the disease concerned using the methods already described and relating trends in the disease locally and nationally to vaccine uptake. More accurate measures were obtained by the investigation of outbreaks in defined populations and comparing the incidence of the disease in the vaccinated with that in the unvaccinated or by specially designed field research.

The safety of the programmes was monitored through reports of adverse reactions to the Committee of Safety of Medicines, the vaccine manufacturers and by ad-hoc reports to CDSC, the clinical follow-up of small samples of vaccinated children and by specially designed surveillance and field research.

Vaccine uptake was measured by standard returns to DHSS and the Welsh Office and by local and national surveys.

Some special vaccine surveillance studies

BCG Vaccine The numbers of organisms contained in different batches of BCG vaccine, the viable count, varies; those with low counts produce low tuberculin conversion rates whilst those with high counts may produce unacceptably large BCG lesions at the site of vaccination. A field trial in the early 1970's showed that vaccines recommended by the WHO with viable counts higher than those of vaccines previously given in the UK did not cause clinically significant larger reactions. A new vaccine was then introduced in the UK with a higher viable count conforming with the WHO standard. Since this time ERL has routinely assessed batches for distribution.

These batches were administered to tuberculin negative children in the routine BCG vaccination programme in selected schools in Reading. Post vaccination Mantoux tests were carried out to ascertain tuberculin conversion, to assess potency, and the size of the BCG vaccination lesion was measured to assess reactivity. This study demonstrated a high level of consistency in BCG production batches in their ability to produce high rates of tuberculin conversion with low and acceptable levels of vaccine reaction.

Whooping Cough Vaccine

The assessment of the efficacy of pertussis vaccine in the 1960's showed that the vaccine was less effective than had been thought and led to changes being made in the antigenic constitution of the vaccine. Three main studies followed this change. First, a large scale study in twenty-one area health authorities comparing the notification rates of whooping cough in children given diphtheria/tetanus/pertussis (DTP) vaccine with those given diphtheria/tetanus (DT) vaccine, taking into account social factors likely to affect the validity of the comparison. This demonstrated that the new formulated vaccine was indeed more potent, with a protective efficacy of over 80 per cent. Second, the detailed follow-up of 10,000 children in Hertfordshire given either DTP or DT vaccine to assess reactions following vaccination. This failed to demonstrate that the pertussis component of the vaccine increased the incidence of reactions. Third, a study of pyrexia following plain and aluminium adsorbed DTP vaccines which showed that the adsorbed vaccine gave rise to significantly less reactions.

Measles Vaccine. Since the measles vaccine trials in the mid 1960's ERL staff have followed up the participants to assess the long term efficacy of vaccination. A recent review after 21 years showed sustained levels of antibody. A continuing study is in progress to measure antibody in maternal, cord and infant sera of vaccinated mothers and another to determine the clinical and serological outcome of measles in pregnancy. A continuing study in Somerset, involved the follow-up of children after measles vaccination to monitor reactions.

Rubella Vaccine. The rubella monitoring and research programme funded by the Office of the Chief Scientist began in 1984, to assess the effect of a national health education programme to promote rubella vaccination in schoolgirls. Preliminary analyses indicated that an acceptable level of control of congenital rubella was unlikely to be achieved by the present vaccination schedule and, therefore, universal vaccination in early childhood should be considered. This led to mathematical modelling studies to determine the likely effect of various levels of uptake of vaccine given to both girls and boys in the second year of life of this age. In anticipation of a change in vaccination policy a more effective scheme of on-going serological surveillance is being introduced based on sera available from all age groups, collected for clinical purposes and held by laboratories.

EPIDEMIOLOGICAL RESEARCH

Objectives

To initiate, coordinate and carry out epidemiological research. To provide epidemiological and statistical advice and support to other PHLS Units and to PHLS Committees.

Method

The research is service orientated; problems requiring study may be identified by disease surveillance, by the surveillance of immunisation programmes, by field investigation or may be identified by other PHLS Units or outside bodies. The investigation of the problem may require descriptive or analytical studies and often these are seen as part of routine surveillance activities or field investigations and not recognised as research.

More clearly apparent research projects are those concerned with field trials of vaccines and immunoglobulins which have been a major role of ERL since its inception in the 1940's.

Some research projects

A list of current research projects in 1986 is provided in Appendix 4. Some research projects have already been mentioned in the previous sections, others over the 10 years 1977-1986, will be apparent from the list of publications in Appendix 5. Some of these projects are described here.

Acellular pertussis vaccine trials. Acellular pertussis vaccines containing purified *B. pertussis* antigens with minimal levels of biologically active toxin have become available for clinical trial in the UK. These vaccines offer three potential advantages over conventional whole cell preparations:- (i) improved efficacy with the possibility of good protection after 2 doses, (ii) minimal reactogenicity, (iii) increased acceptance. Before a large clinical protection trial of candidate acellular vaccines is undertaken in the UK, the immunogenicity and reactogenicity of these preparations will be compared with that of the whole cell preparation currently used. A CDSC study is being planned to compare antibody responses in both serum and nasal secretions after 2 and 3 doses of whole cell and acellular pertussis vaccines in about 400 children in Hertfordshire and will explore the effect of different dose levels of component antigens. The frequency and nature of post-vaccination symptoms in recipients of whole cell and acellular preparations will also be compared.

Immunoglobulin studies. CDSC and formerly ERL were responsible for the issue of normal and certain specific immunoglobulin preparations manufactured by the Blood Products Laboratory, Elstree. This routine activity made available the opportunity for studies of their efficacy.

- (i) Normal immunoglobulins for travellers. The main use of normal immunoglobulin is for the protection of travellers against hepatitis A infection; in the years 1981-1985 the average annual numbers of 250 mgm ampoules issued was over 70,000. Because it was known that only low titres of immunoglobulin were required for protection, a study was made of the efficacy of a lower dose instead of the standard dose of 500 mg in travellers staying for

short periods in endemic areas. This showed that the smaller doses were effective and led to the recommendation for a dose of 250 mg for adults staying for two months or less in the endemic area.

- (ii) Zoster immune globulin (ZIG). This specific immunoglobulin is used for the protection of neonates whose mothers develop chickenpox shortly before delivery and for the protection of pregnant women exposed to infection, as well as in immunocompromised patients. Beginning in 1979, a study was made of the outcome in neonates and pregnant women. This suggested that ZIG prophylaxis in neonates whose mothers developed chickenpox within two weeks of delivery, reduced the severity of neonatal chickenpox. However, 9 of 104 neonates studied, had severe attacks and there were two deaths. The study is continuing with an increased dose of ZIG. In 30 pregnant women followed up after ZIG prophylaxis, 22 became infected, and although it did not prevent infection, it did appear to reduce the severity.
- (iii) Mumps immunoglobulin. A study of the efficacy of this specific immunoglobulin in preventing mumps in susceptible contacts, showed that it was of limited value.

Vaccine uptake A survey of pre-school immunisation programmes was carried out between March and June 1986. One hundred and ninety-three of 201 Districts in England and Wales responded to a postal questionnaire, which covered medical, administrative and nursing aspects of the programme. Less than 50 per cent of Districts calculated their immunisation uptake in an appropriate manner (immunisations given to resident children on a child register), although those with computerised systems were more likely to do so than those using a manual system; computerised Districts also had higher uptake rates. Several obstacles to raising immunisation rates were identified, in particular continuing ignorance and confusion among health professionals concerning contraindications. Resources for immunisation varied widely between Districts, but were not strongly correlated with immunisation performance nor were socio-economic factors.

Acquired immune deficiency syndrome. Several studies are in progress or have to be planned.

- (i) A study of the sexual behaviour of homosexual men by postal questionnaire showed differences between the USA and UK, and within the UK between London and other parts of the country. Those outside London had fewer sexual partners and fewer engaged in traumatic practices than in London, and those in London had fewer sexual partners and were less likely to engage in traumatic practices than in the USA. This survey will be repeated in an attempt to assess changes in behaviour over time.
- (ii) A study of HIV seroprevalence in intravenous drug abusers in several major centres in England will begin in 1987 and will if possible be extended to their sexual partners.
- (iii) HIV infection has been detected in 0.02 percent of blood donors, but denominator data of the donor panels were not available to calculate age and sex specific rates. A study of samples of blood donor records is therefore being carried out to find out the age and sex distribution of donors.

Costing of salmonellosis. An outbreak of *S. napoli* infection in 1982 due to contaminated chocolate, described previously in this report, provided an opportunity to assess the economic impact of a large incident of foodborne disease on individuals and the health services. Costs were studied in three categories, first the investigation of the outbreak, second, the health care provided and third, costs to the individual and the food manufacturers. The total estimated cost was £250,000 to £380,000, 30 percent due to the investigation, 11 percent to health care and 59 percent to individuals and the food manufacturer. Had not the outbreak not been terminated promptly by the withdrawal of the chocolate, the costs would have been two to four times greater and health care costs would have consumed a greater proportion of the total, probably about one quarter.

Legionella in water systems. Field investigation of outbreaks of Legionnaires' disease implicating water systems as the source of infection led to this PHLS study co-ordinated by CDSC. The objectives were first, to study the frequency with which legionella species were found in plumbing systems and air-conditioning equipment; second, to identify design features and other factors which permitted growth and establishment of this organism in such systems; and third, to determine whether legionella was introduced into the potable mains supply from extraneous sources.

Altogether 180 premises were visited, comprising hospitals, hotels and business houses, their water systems surveyed, their operating and maintenance routines recorded and samples of water collected for examination.

Legionellas were found in one or more plumbing systems in 55 (53%) of 104 hotels, 28 (70%) of 40 hospitals, 12 (75%) of 16 business premises and 2 of 3 residential premises. Legionellas were found more frequently in hot water systems than cold water systems. Significant associations were found between the frequency of isolation of legionella and age and size of the hot water systems, the bacterium being present more commonly in larger and older systems. An association was also found between the isolation of legionella and the temperature of the sample site. Fewer positive samples were obtained from hot water taps at which the temperature was below 40°C or above 60°C, as measured after running the tap for three minutes, than between these temperatures. Calorifiers (heating cylinders) were found to be colonised more often than other parts of hot water systems, and the organism was isolated more frequently from horizontal than from vertical calorifiers.

In cooling water systems a significant association was found between isolation of the bacterium and frequency of cleaning. Water samples from the pond of towers cleaned twice yearly were significantly less likely to yield legionella than samples from towers which were cleaned only once a year. Legionellas were found less commonly in cooling tower ponds which were fully open to sunlight, in comparison with partially open ponds. No association was found with type of chemical treatment.

These findings were taken into account in the revision of the DHSS guidelines on the care and maintenance of water systems.

Multicentre study of pneumonia. This collaborative study by the British Thoracic Society and PHLS was co-ordinated by CDSC with the objectives of (i) studying the outcome of community acquired pneumonia in adults requiring hospital admission, (ii) determining factors predictive of

outcome and (iii) assessing the relative values of diagnostic tests in establishing microbiological aetiology.

Altogether 453 patients in 25 hospitals, meeting an agreed case-definition of pneumonia, were recruited to the study. Data were collected locally by a clinical co-ordinator and brought together nationally at CDSC by clinical and epidemiological co-ordinators. The outcome was assessed by mortality, length of hospital stay, time off work and resolution of chest radiograph.

A microbiological aetiology was established in 67% of the 453 adults studied; *Streptococcus pneumoniae* (34%), *Mycoplasma pneumoniae* (18%) and influenza A virus (7%), were the commonest. Only 9 (2%) of patients had legionella pneumonia, none of whom died. Patients had a 21-fold increased risk of death if, on admission, they had two of the following: respiratory rate of 30 per minute or more, diastolic blood pressure of 60mm or less, urea greater than 7 mmol/L. Mortality was not related to aetiology, except that all three patients with influenza A virus and *Staphylococcus aureus* infection died. Hospital stay in survivors averaged 10.8 days; 6 weeks later, 79% were fit for normal activities and 55% showed resolution of radiographic signs of pneumonia.

Bacteria and cancer. The ERL and since 1985, CDSC, have collaborated with the PHLS Bacterial Metabolism Research Laboratory on studies on the relationship of bacteria and gastric cancer. Bacterial overgrowth in the stomach occurs in the absence of acid which may result in the conversion of nitrates to nitrites and nitrosamines, which could lead to an increased incidence of cancer at various sites. Three main studies have shown an excess of cancer in hypochlorhydric patients. First, over 600 patients with pernicious anaemia were identified and traced. An initial analysis showed an increase of gastric and colorectal cancer. Second, a follow-up of 1,150 gastric surgery patients showed an increase in gastric, colorectal and biliary tract cancer all with a 20 year latency. Third, in a larger study of over 5,000 patients who had undergone gastric surgery at St. James Hospital, Balham, between 1940 and 1960, a "person years at risk" calculation in 5 year bands showed an increased risk, with a 20 year latency, of mortality from gastric, colorectal, biliary tract, breast, pancreas, lung and bladder cancer. Detailed analysis of sub-groups showed that this risk differed according to the site of the original ulcer (whether gastric or duodenal) and according to the type of surgery.

TRAINING AND TEACHING

On the creation of CDSC it was apparent that the new unit would be unable to fulfil its functions without suitable trained medical epidemiologists. Consequently training programmes were devised and the Centre became involved in teaching.

Objectives

To provide training in the epidemiology of communicable disease and to assist in undergraduate and postgraduate teaching programmes in this field.

Method

The surveillance, field investigation and vaccine research work of CDSC were used to provide experience and training for community medicine and other trainees, under the supervision of consultant and other senior staff. These activities also generated teaching material which were used by CDSC in contributing to undergraduate and postgraduate teaching and were also provided for use for teaching by academic departments.

Some training and teaching activities

The PHLS has had an extensive training programme for microbiologists, including secondment for academic courses, for many years but has not developed organised training programmes for medical epidemiologists until the advent of CDSC. The senior registrar training programme and the attachment scheme described here were developed in the past 10 years. Over this period there have been 10 full time senior registrars, 5 of whom are still in training, 3 part-time senior registrars and 57 attached senior registrars in general community medicine. These are listed with their eventual senior posts in Appendix 6.

Senior Registrar Training Programme. This provides higher specialist training in community medicine; six posts are currently accredited by the Faculty of Community Medicine. The programme comprises six main elements which are designed according to the senior registrar's previous experience and special interests. (A copy of the programme approved by the Joint Committee on Higher Medical Training is in Appendix 7.)

First, communicable disease epidemiology based at CDSC for about two years, during which the senior registrar takes on specific areas of work in disease surveillance and the surveillance of immunisation programmes, takes part on a roster as duty epidemiologist for information calls during working hours, undertakes field investigations, participates in surveys and research and contributes to teaching, particularly of under-graduates. In the limited time available, between 25 and 30 major field investigations are completed enabling the senior registrar to gain confidence in this work.

Second, microbiology, usually a continuous attachment to a bacteriology and virology laboratory of between six and twelve weeks duration, during which the senior registrar undertakes bench work and also becomes familiar with the work of the hospital control of infection team.

Third, clinical medicine in any field related to communicable disease, usually a continuous attachment to a clinical unit of about three months.

Fourth, general community medicine, working at district level including experience of medical officer for environmental health duties for at least nine months.

Fifth, an academic link, usually to one of the London medical schools, throughout the period of training, in which the senior registrar participates in teaching and sometimes in research projects.

Sixth, an overseas attachment to an epidemiological unit, such as the Centers for Disease Control, Atlanta, for a period of about three months.

The attachment scheme. This scheme aims to provide experience and training in the field investigation of disease for senior registrars in general community medicine. The CDSC attachment is usually for a period of three months and begins with a short induction course at the Centre. The senior registrars then take part in field investigations under the general supervision of a CDSC consultant epidemiologist, although working to the local MOEH or Hospital Control of Infection Officer, or as a member of a PHLS team deployed for the particular investigation. During the attachment it is often possible for the senior registrars to undertake a limited surveillance project. This scheme has proved very popular and CDSC is unable to provide the number of training places requested. The scheme provides the attached senior registrar with field experience under supervision in a short period of time which they would be unlikely to be able to obtain during their whole training period in a district or region. The scheme provides often much needed help to MOsEH and others in the investigation and full documentation of episodes of infection. Finally, the scheme provides CDSC with additional field staff to assist in and coordinate infectious disease control.

Teaching. CDSC has provided an annual course on acute community medicine since its inception in 1977 for the MSc (Community Medicine) at the London School of Hygiene and Tropical Medicine and an annual joint in-service training course for MOsEH with Professor D.L. Miller at St. Mary's Hospital Medical School and formerly the Middlesex Hospital since 1978.

Additionally, staff have provided 96 day or half-day courses for groups of visitors in ten years. The courses provided in 1986 and the lectures given by members of staff are listed in appendix 8.

ORGANISATION AND STAFFING

Introduction

The initial organisation of CDSC was designed to fulfil the function of 'a highly active information and coordinating centre' as was proposed in the Report of the Committee of Inquiry into the Smallpox Outbreak in London in March and April 1973.⁶ Indeed, in developing the organisation of CDSC and designing its purpose-built accommodation, a study was made of the centre for the control of communicable diseases in animals at Tolworth as recommended in the Report, and of other information and coordinating centres. The CDSC organisation which was evolved during the years 1977-1980 was based on the concept that it should function as a single entity, with all staff fully aware at all times of the current communicable disease situation in the UK and abroad, relevant to the UK. To achieve this the staff were organised in five main groupings, rather than in separate sections responsible for particular communicable diseases, and were accommodated in an open plan building designed to promote communication within and between the groupings. The groupings were (i) medical epidemiologists, (ii) surveillance or information staff, (iii) staff managing the laboratory reporting system and producing the CDR, (iv) staff providing statistical and computing services to the Centre and (v) administrative and secretarial staff. With the merger of ERL with CDSC at the end of 1984 and the provision of additional accommodation in the new Central Public Health Laboratory adjacent to the CDSC building in 1985, an additional group was added, concerned with immunisation and vaccination, which has remained as a separate section, and an attempt was made to bring together the statistical and computing staff of the two units into a single support group.

Organisation structure and staffing, 1986

CDSC comprises the five original organisational groupings of staff and the separate vaccination and immunisation section and at 31st December, 1986 consisted of 61 staff (50.30 whole-time equivalents, WTE), 10 of whom (9.13 WTE) were wholly or partly externally funded, excluding extra-mural staff. Of the externally-funded staff, 4 (3.99 WTE) were financed by a special, 3-year DHSS AIDS grant, commencing in June, 1985. There were 10 vacancies (7.89 WTE), all of them posts on administrative, secretarial or clerical grades. The organizational structure and staffing at 31st December, 1986 are shown in Appendix 9.

Medical epidemiologists. There were 10 senior medical epidemiologists (9 WTE) including the Director, CDSC; 5 of these were full time consultants based at CDSC, Colindale, namely Drs. N.S. Galbraith, Susan E.J. Young, C.L.R. Bartlett, Marian B. McEvoy, N.D. Noah; two were half-time at CDSC Colindale, namely Dr. Susan M Hall, who held a joint post with the Department of Epidemiology at the Institute of Child Health and Dr. Anna McCormick, who held a joint post with OPCS; one consultant Dr. S.R. Palmer, was based in Cardiff and another, Dr. A.D. Pearson, was a consultant microbiologist undergoing epidemiological training, who will join CDSC full-time in April, 1987; one senior epidemiologist part externally funded was located at CDSC, Colindale.

The consultant staff have general responsibilities in CDSC as well as their own specific functions; these include on-call duty out-of-hours and at weekends, field investigation when required and special surveillance tasks from time to time. All the senior staff have responsibilities in research as is indicated in the list of publications at appendix 5 and in

the CDSC current research projects shown in appendix 4. They also all have responsibilities in training of senior registrars and attached staff and in teaching as is shown by the list of courses provided at CDSC and lectures given during 1986 (Appendix 8). Finally, they all have responsibilities as members of PHLS working parties and committees and of special committees within their spheres of expertise and interest of outside bodies, such as the DHSS and MRC and of professional societies. Current committee membership of CDSC staff is shown in appendix 10.

The specific functions of the senior staff are indicated in appendix 10 and are as follows:

- (1) Dr. N.S. Galbraith, Director, responsible to Director, PHLS for the overall policy, operation and budget of CDSC and to the chief medical officers of England and Wales for the national surveillance and control of communicable disease. Responsible also for periodic reviews of communicable disease, and for regular contributions on topical events to the British Medical Journal, PHLS Digest and 'Community Medicine', the Journal of the Faculty of Community Medicine. Responsible for writing repeated reviews of CDSC, its work and future!!
- (2) Dr. Susan E.J. Young, Deputy Director, Editor of CDR. Responsible for coordinating CDSC response to incoming information about episodes of communicable disease derived from routine surveillance or ad hoc reports, for deputising for the Director as required, for the editing and production of the CDR and for the surveillance of bacterial infections, particularly those causing bacteraemia and meningitis.
- (3) Dr. C.L.R. Bartlett. Responsible for the field investigation of episodes of disease or infection, for deploying staff for these investigations and for their training in this work, for organising and managing the short-attachment training scheme for senior registrars in community medicine, for the surveillance of legionella infections, for liaison with the PHLS Division of Hospital Infection in the development of national surveillance systems for hospital acquired infections and for advising and assisting staff in CDSC in field research.
- (4) Dr. Susan M. Hall. Responsible for setting up and maintaining a clinical reporting system of childhood illnesses from paediatricians as medical coordinator of the British Paediatric Surveillance Unit, a joint surveillance programme between CDSC, the British Paediatric Association and the Department of Epidemiology at the Institute of Child Health. Responsible for the surveillance of childhood infections including congenital infections, for special surveillance schemes of Reye's syndrome, Kawasaki disease and haemolytic uraemic syndrome.
- (5) Dr. Anna McCormick. Responsible at CDSC for the information systems providing data to the information section, and at OPCS for infectious disease statistics. Manages the notifiable infectious disease system at OPCS and the clinical reporting system from boarding schools at CDSC. Responsible for reviewing and simplifying the laboratory reporting system and for developing more effective computerisation of the data. Responsible for the joint OPCS/CDSC annual review of communicable disease. Advises on data processing.

- (6) Dr. Marian McEvoy. Responsible for the CDSC AIDS surveillance programme, for the supervision of staff working on the laboratory reporting of HIV antibody positive reports and for the national surveillance of health care staff possibly exposed to infection. Responsible for the surveillance of sexually transmitted diseases.
- (7) Dr. Christine L. Miller. Responsible for the surveillance of immunisation programmes and for vaccine research. Personally responsible for the surveillance of measles, subacute sclerosing panencephalitis and measles vaccine, of BCG vaccine, of rubella vaccine and for developing a continuous system for the serological monitoring of infection in the population.
- (8) Dr. N.D. Noah. Responsible for contributing to and editing reports for the CDR 'inserts', for the surveillance of viral diseases, particularly enteroviral and viral respiratory diseases, and for the surveillance of rubella and whooping cough. Responsible for organising CDSC visitors courses.
- (9) Dr. S.R. Palmer. Responsible for advising the Chief Medical Officer of Wales on all aspects of infectious disease, for the national surveillance and control of communicable disease in Wales and for advising on zoonotic infections throughout England and Wales.
- (10) Dr. A.D. Pearson. Currently (December 1986) on epidemiology course to April, 1987. Responsible for studies on campylobacter infection and will develop a role in the AIDS/HIV surveillance programme.

Senior registrars in training. There were six posts approved by the Joint Committee on Higher Medical Training, five of which are funded and are filled (Appendix 9). The training programme is shown in appendix 7. This was varied according to the previous training and experience of the senior registrar and his/her particular interests. The main areas of interest of the current senior registrars are shown in Appendix 9 and include surveillance of immunisation programmes, gastro-intestinal infections, AIDS, Lyme disease and respiratory infections. The individual training programmes were organised by Dr. Galbraith in consultation with the Faculty of Community Medicine and with the other staff concerned in the training, both in CDSC and outside. Drs. Bartlett and Noah shouldered the main responsibility for training within CDSC.

Extra-mural staff. (i) Dr. Christine Caygill, PhD was based full-time but was on the staff of the PHLS Bacterial Metabolism Research Laboratory working on the role of bacteria in the causation of cancer, as is illustrated by the publications listed in Appendix 5 and current research projects in Appendix 4. She worked to the Director of the Bacterial Metabolism Research Laboratory and was provided with secretarial and clerical support at CDSC.

(ii) Honorary consultant staff. There are six honorary consultant medical staff whose main functions are listed in Appendix 9. Two of them, Dr. Barbara Bannister and Dr. O.N. Gill had a regular sessional commitment to CDSC and made a substantial contribution to the work of the Unit in 'on-call' duty, advice to other consultants and in training and teaching. Dr. Bannister provided a particularly important clinical input into CDSC. The other four honorary consultants provided advice and assistance on an ad-hoc basis.

(iii) Other extra-mural staff. Mr. J.C. Bell, veterinary epidemiologist, employed full-time by the Ministry of Agriculture Fisheries and Food at Tolworth, had a regular two-day-a-week commitment to CDSC, giving advice on zoonoses and providing an important link between CDSC and the veterinary service. He assisted in field investigations, contributed to the surveillance of zoonotic infections and took part in the Centre's teaching activities.

The three DHSS staff, senior medical officer, senior environmental health officer and press officer provided liaison with DHSS and contributed to a regular weekly CDR editorial meeting. The DHSS senior medical officer post was initially a full-time appointment in CDSC and provided a substantial contribution to the surveillance activities of the Centre. This was reduced to two sessions per week in 1985 on retirement of the appointee and the doctor then appointed retained responsibility for the national Leprosy Register. At the end of 1986 this doctor left and no permanent replacement had been provided. Mr. M. Jacob, Senior Environmental Health Officer at DHSS made a particularly valuable contribution to CDSC in food hygiene, in DHSS policy in this field and in legal aspects of public health; indeed, the Centre lacked sufficient expertise in these fields and in other aspects of environmental hygiene. In 1979 the DHSS agreed to designate a press officer to assist CDSC in relationships with the press and media following difficulties experienced in the 1978 Birmingham smallpox incident. This proved immensely helpful in providing to the press and media the information they required, and in protecting CDSC staff from the many press enquiries which occur particularly at the time of a major incident. The designated Press officer discussed current press interests at the weekly CDR editorial meeting and was given up-to-date information about prelevant communicable diseases. All press calls to CDSC during and out of working hours were referred to the press officer who responded to them, after briefing from CDSC staff. CDSC staff, with the exception of the Director and Deputy Director, were not normally permitted to have direct contact with the press and media.

Information section. The objective of this group of staff was to collect, collate, analyse and present data on communicable disease from all sources, working with the consultant and other staff concerned. (See National Surveillance of Communicable Disease). They provided an information service during working hours, supported by medical staff and operated the out-of-hours on-call system for the consultant staff. At 31st December there were 8 staff (7.66 WTE) and 3.39 vacant posts (Appendix 9).

These staff, most of whom were graduates in biological sciences with interests in epidemiology, correspond to 'research assistants' in a research unit. Each had responsibility for a group of diseases and worked to the consultants with responsibilities for these diseases. They maintained the manual standard analyses and tabulations of data on the diseases for which they had responsibility, which were continuously available in the 'surveillance area' of the CDSC building.

Laboratory reporting and CDR section. At 31st December there were 16 staff (10.72 WTE) and no vacant posts in this group. Historically, this grouping of staff arose because the PHLS created and managed a surveillance system based on laboratory reports and from these produced weekly and quarterly analyses of laboratory data. The group performed two functions: (i) managing the national laboratory reporting system and analysing and interpreting laboratory data, that is providing the in-put

of these data to the surveillance activities of the Centre, (ii) editing and producing the CDR, the main regular output of the surveillance activities of the Centre. (See National Surveillance of Communicable Disease).

Vaccination and immunisation. This section was responsible for the surveillance of immunisation and vaccination programmes and for vaccine research and comprised most of the staff of the former ERL including Dr. Christine Miller. At 31st December there were 8 staff (6.84 WTE) in addition to Dr. Miller, with no vacancies. The section included one senior microbiologist with a special responsibility in vaccine research, but no other epidemiological qualified and trained staff.

Statistics and computing section. This section was formed by the merger of statistical and computing staff of ERL and CDSC under the Head Statistician, Dr. Hilary Tillett, to provide statistical and computing services and advice to all the staff and sections of CDSC. At 31st December, 1986, the section comprised 6 staff (4.79 WTE), one full-time member of which was externally funded, with one vacancy. The section developed an additional role of providing statistical advice to other units of PHLS and to PHLS working parties.

Administrative and secretarial section. This section provided administrative and secretarial support to the staff of CDSC. The Centre Administrator was also the Centre's personnel officer and is responsible for the day-to-day management of the Centre's budget. The secretarial staff played an important role in CDSC because communication is essential to the Centre's function and much of the communication is in a written form, such as surveillance reports, outbreak reports and contributions to the CDR and medical journals. These required skilled typing and a level of expertise in visual presentation not usually necessary in secretarial staff. At 30th December, 1986 there were 9 staff (7.04 WTE) including one externally funded-part-time secretary and 3.5 full-time vacancies.

Deficiencies of present organisation and staffing.

The present organisation of CDSC was devised for the three original functions of the Centre with a complement of between 40 to 50 staff, and for these functions has proved effective. However, with the increased size of the Centre, the merger with ERL adding the additional functions of vaccination and immunisation and possible further increases in staff, it is no longer possible to manage the Centre as a single entity and a more structured division of responsibilities within sections is now required.

Medical staff There were nine main deficiencies. First, there was no full-time consultant responsible for surveillance; second, there was only one consultant with a major commitment to field investigation; third, there was only one senior epidemiologist concerned with vaccination and immunisation; fourth, the consultant responsible for the successful surveillance programme of childhood disease had a three year half-time contract which terminates in September 1988; fifth, there was only one clinician of consultant status in CDSC who has held an honorary contact; sixth, there was inadequate scientific, statistical and secretarial support for the consultant staff; seventh, one of the senior registrar posts was vacant and unfunded; eighth, the attachment training scheme for community physicians was oversubscribed and there were very limited opportunities for training of staff in other specialties; ninth, there was also inadequate support staff for these junior doctors.

Information section Most of the staff in the information section were graduates in biological sciences with interests in epidemiology but often with little training in this field. Three main deficiencies have been experienced in recruiting, training and retaining these staff. First, training facilities were not available, there was only one known suitable course in health information (Warwick University) but PHLS did not provide for attendance at this course, nor at other available courses such as the combined course in statistics and epidemiology at the London School of Hygiene and Tropical Medicine. Second, the posts established in CDSC were on administrative and clerical scales; none were on scientific scales. Third, there was no career structure for these non-medical epidemiologists in PHLS nor indeed, in the National Health Service.

Laboratory reporting and CDR section The inclusion of the two functions of managing the laboratory reporting system and the production of CDR in one section probably militated against the development of the CDR into a more comprehensive information bulletin based on all sources of communicable disease data. There were insufficient skilled scientific, editorial and graphics staff to promote this development.

Vaccination and immunisation section The separate organisation of this section from other sections of CDSC protected vaccine research activities from the more pressing demands for current investigations. However, it artificially separated vaccine surveillance from disease surveillance and has led to a poor and uncoordinated information output on the surveillance of vaccination programmes. In addition to the inadequate medical staffing of this section, insufficient scientific and statistical support were available

Statistics and computing section The lack of trained statisticians has made it difficult to create a single section serving the whole of CDSC and also PHLS. The staff that were in post were so fully occupied that it was not possible for them to coordinate their work effectively. There was only one computer specialist, who was isolated from colleagues in his specialty and did not have adequate back-up during his absence. The deficiency in computing expertise and in equipment was manifested in the inflexible computing of laboratory data and the absence of computerisation of other surveillance systems in CDSC.

Field Services Perhaps the most notable deficiency was the absence of a section in CDSC for field investigation, field research and training. Only one full-time consultant and another part-time with secretarial support covered this whole field. Consequently, it was not possible to accept all requests for field assistance, nor to initiate field research based on the findings of surveillance when this was indicated. It was impossible to meet the demand for training of community physicians and of doctors in other specialties, particularly microbiology.

DEVELOPMENT OF CDSC 1986/87 to 1991/2

This section puts forward proposals for the development of CDSC in the next five years to remedy the deficiencies in organization and staffing already described. The implementation of this five-year programme is intended to provide the basis for the longer term development of CDSC and epidemiological services of PHLS.

A revised organisation structure

It is suggested that CDSC should comprise three Divisions (i) Surveillance and information, (ii) Field investigation, research, and training, (iii) Vaccination and immunisation, each Division with a consultant medical epidemiologist as head, one of whom might also be Deputy Director, CDSC. There would be two support sections (1) Administrative and secretarial and (2) Statistics and computing, the heads of which would be responsible for providing the necessary staff and services to the three Divisions (Appendix 11).

The three Divisions would be interdependent entities with their own but closely related areas of responsibility and would be located in distinct parts of the CDSC accommodation. Most of the medical and scientific staff would have duties in more than one Division, as well as links with PHLS reference laboratories and outside organizations. Indeed, the revised structure is intended to facilitate the development of such links, particularly with reference laboratories.

Management arrangements

The introduction of such a revised organisational structure will necessitate new management arrangements. The present informal management should be replaced by a management group comprising the Director, the three heads of Divisions and the heads of Administrative and Statistical Sections or their deputies, which should meet briefly each day to discuss immediate communicable disease problems and should meet more formally less frequently to consider matters of policy, finance and staffing. These formal meetings should be minuted and take place frequently whilst the new organisational structure is being implemented and thereafter bi-monthly might be sufficient.

The 'open post' system currently operated in CDSC should be replaced by similar systems in each of the three Divisions. The Director, heads of the three Divisions and the other two Sections would have access to post meetings of the Divisions and would have available to them copies of all non-confidential out-going mail.

All three Divisional heads should attend PHLS HQ monthly Epidemiology Briefing Meetings, should have access to PHLS Management Group and should be circulated with PHLS Board Agendas and Minutes.

Surveillance and information division

This Division would comprise the existing 'Information Section' and 'Laboratory Reporting and CDR Section' of CDSC in a revised organisation. The Division would have three sections (Appendix 11):

(1) Data Collection Section, responsible for (a) managing and developing the laboratory reporting system and the clinical reporting system from boarding schools, (b) ensuring input of data from other routine systems

such as infectious disease notifications, sexually transmitted disease reports, industrial sickness reports and death registrations (c) developing with other CDSC staff and with microbiologists and clinicians specific active data collecting systems (d) coordinating data collecting systems (e) ensuring the availability of communicable disease data from other countries (f) ensuring the availability of other relevant data such as national travel data and food consumption data.

(2) Information Section, responsible for (a) analysing and collating data and presenting information for the CDR and other reports, (b) detecting variations in trends in infections and alerting the Field Services Division of the possible need for investigation, (c) maintaining a daily update 'incident' report for transmission to all PHLS laboratory directors, (d) providing a continuous information service to Director PHLS and DHSS and (e) providing information to ad hoc enquirers.

(3) Editorial Section, responsible for producing (a) the weekly CDR, (b) Quarterly CDR, (c) joint annual report with OPCS, (d) regular clinically orientated contributions to the British Medical Journal, (e) quarterly reports for 'Community Medicine' journal and PHLS Digest, and (f) for providing periodic reviews on communicable disease problems.

FIELD SERVICES, RESEARCH AND TRAINING DIVISION

The creation of this division is intended to extend the Centre's capability to undertake field investigations, to increase and improve field research and to enlarge the CDSC training programme. The Division would have three sections (Appendix 11):

(1) Field Services Section, responsible for (a) responding to requests for field assistance, (b) assessing the need for field investigation of problems detected by the Surveillance and Information Division, and (c) for deploying staff in the field as appropriate and supervising their work. The function of this section would enable CDSC to play a more active role in field investigation and allow for an increase in the number of trainees gaining experience in this work.

(2) Field Research Section, responsible for (a) field studies of newly recognised diseases and other diseases in which the epidemiology is unclear or changing, in collaboration with PHLS laboratories, clinical groups and other relevant bodies, (b) evaluation of methods of prevention and control of communicable disease and (c) the field validation of laboratory tests with PHLS and other laboratories. This section would enable PHLS to resume its key role in multi-centre studies of communicable disease epidemiology.

(3) Training Section responsible for (a) organising the training programmes of CDSC senior registrars, (b) developing and extending the 'short attachment' training scheme for community physicians, (c) designing and implementing training schemes for medical microbiologists and for clinicians, (d) providing courses on the investigation and control of communicable disease at CDSC, particularly for community physicians, medical microbiologists and environmental health officers and (c) organising annually an epidemiological conference. This section would enable CDSC to meet the needs for training of community physicians and microbiologists.

Vaccination and Immunisation Division

This Division would continue the work of ERL in vaccination and immunisation and restore the capability of PHLS to undertake the comprehensive surveillance of immunisation programmes and field trials of vaccines and immunoglobulins. The Division would have two Sections (Appendix 11):

(1) Vaccine Programme Surveillance Section, responsible for maintaining continuous surveillance of the efficacy, safety and uptake of vaccines in routine use in children and adults in England and Wales, including the development of sero-surveillance of diseases for which vaccines are available or likely to become available. In the surveillance of these diseases the section staff would work in close collaboration with staff of the Information Section and Field Services Section.

(2) Vaccine Research Section, responsible for field trials of vaccines and immunoglobulins, for designing and carrying out research programmes of problems detected by surveillance, and responding to requests for vaccine research from the Joint Committee of Vaccination and Immunisation and from the Medical Research Council.

Accommodation

The existing CDSC accommodation on the ground floor of the Central Public Health Laboratory and in the original CDSC single-storey building would be inadequate for the staff required to perform the functions of the three proposed new CDSC Divisions.

The CPHL accommodation was originally designed for the vaccination, immunisation and surveillance functions of ERL and might appropriately continue to be used by the Vaccination and Immunisation Division which will have need for most of it to achieve the same capability as ERL in vaccine surveillance and research. It might also house the CDSC statistics and computing section.

To enable the development of the CDSC Surveillance and Information Division and Field Services Research and Training Division the single storey CDSC building should be enlarged to three times its present size. Experience has shown that the partially open-plan accommodation on one level is particularly suitable for the work of these Divisions. It is suggested, therefore, that urgent consideration is given to extending this building in such a way that a single, large, one-level floor area is provided. In order to achieve the proposed development of CDSC within five years, the new accommodation will need to be available in the financial year 1989/90.

CDSC STAFFING 1986/87 to 1991/92Consultant medical staff

During the next five years the Director, CDSC and the Head of the Vaccination and Immunisation Division will retire and the Deputy Director, CDSC may also retire. In order to replace these staff and to develop the work of the Centre it will be necessary to recruit senior staff from both the senior registrar programme and from outside the PHLS. Although the latter has proved difficult in the past, the much greater interest in communicable disease at the present time may attract suitable candidates from several different specialties, which would provide the Centre with a staff with a wider range of training and experience than exists at present.

Eight posts are proposed in the next five years, five of them new full-time posts, one a replacement for Dr. Christine Miller's part-time Senior Epidemiologist post, and the extension of Dr. Sue Hall's part-time appointment to a full-time permanent appointment and one replacing Dr. Bannister's honorary appointment with a 4 session per week, PHLS-funded appointment. (Appendix 11)

1986/87 Consultant, field services. Post already advertised. This consultant will work mainly in the field investigation of disease but until further appointments are made will also make a substantial contribution to the surveillance activities of the Centre.

1987/88 Consultant, vaccine surveillance. Post to take on vaccine surveillance work of Dr. Christine Miller who retires in June, 1987. Responsibility also for developing the surveillance of immunisation programmes. (The present post is at Senior Epidemiologist grade and part-funded 0.73 by PHLS externally).

1987/88 Consultant physician 0.4 WTE. This is a part-time post joint with the NE Thames Regional Health Authority converting the current two honorary sessions held by Dr. Bannister to four substantive sessions for work on clinical aspects of AIDS, viral haemorrhagic fevers and to assume responsibility for clinically orientated, regular contributions to the British Medical Journal.

1988/89 Consultant, paediatric surveillance. This full-time post would replace the three-year, part-time joint appointment with the Department of Epidemiology at the Institute of Child Health. The half-time commitment to the Institute enabled Dr. Hall to set-up a national clinical surveillance system of childhood infections through the British Paediatric Association. In the new full-time permanent post there will be increased responsibilities for childhood and perinatal infections at CDSC, particularly for paediatric AIDS, Reye's Syndrome, Kawasaki disease, haemolytic uraemic syndrome, cytomegalovirus infection, toxoplasmosis and listeriosis. The consultant will continue to work with the British Paediatric Association but only in a supervisory role in the British Paediatric Surveillance Unit.

1988/89 Consultant, gastro-intestinal diseases. This full-time consultant epidemiologist post is designed to meet the need for a closer link between the Division of Enteric Pathogens and CDSC and also to strengthen the field investigation capability of PHLS in enteric diseases. The consultant would be a member of Field Services Section with special responsibility for the investigation of episodes of enteric disease, would

have a commitment to the Division of Enteric Pathogens for joint studies in this field and would contribute to CDSC surveillance schemes of gastrointestinal infections.

1989/90 Consultant virologist, vaccination and immunisation.

This full-time post will provide virological expertise in the Vaccination and Immunisation Division. The virologist appointed will have had or be given training and experience in epidemiology, particularly in the vaccine field. It is intended that the post should be linked with the Virus Reference Laboratory and the National Institute of Biological Standards and Control and would have responsibilities for assessing the need for and the potential effect of new vaccines, for assisting in their development, and clinical trials.

1989/90 Consultant, respiratory disease. This full-time consultant post in clinical epidemiology is to improve the surveillance of respiratory infections including influenza, and the person appointed will work closely with the Virus Reference Laboratory and with physicians in respiratory medicine. It would be intended to associate the post with the Cardio-Thoracic Institute at the Brompton Hospital and with the British Thoracic Association. The consultant would be a member of the Information Section but with responsibilities for surveillance, field investigation and research of respiratory infections.

1990/91 Consultant, surveillance. This would be a full-time senior consultant epidemiologist post, head of the Surveillance and Immunisation Division, with overall responsibility for the surveillance activities of CDSC. The person appointed should have particular experience in health information, in information technology and computing and the post could appropriately be linked with an academic department of epidemiology.

Regional epidemiologists. No regional epidemiologist posts are proposed during the five year programme because the most pressing needs are to strengthen the central epidemiological component of PHLS and to provide more experienced doctors to work in local public health as MOsEH, and because the previous regional posts in England did not prove to be successful.

A more effective means of distributing the limited expertise over many districts has been suggested, by NHS regions pooling their specialists in community medicine so that they have local and regional duties. In this way a local MOEH with particular experience in communicable disease control could be available for advice and assistance to all the other districts of the region. These posts might be linked with CDSC and PHLS.

During the five-year programme as CDSC staffing increases and as the local public health services improve, the posts of regional epidemiologists linked to CDSC should be re-considered, as also should the proposal of regional/local posts as described above, again linked with CDSC.

A recent development consequent upon the public inquiries into the outbreaks of food poisoning in Wakefield and Legionnaires' disease in Stafford has been the increasing role of regional health authorities in communicable disease control. This may lead to the creation of regional posts in community medicine with responsibilities for monitoring this aspect of public health. Such posts should be linked with CDSC and through them the regions provided by CDSC with the regional data they will require from national reporting systems.

Senior Registrars

The current CDSC senior registrar training programme is the only training programme for communicable disease epidemiologists in the United Kingdom. Although it was created to provide epidemiologists to work in PHLS, it could also be used to train epidemiologists to work locally. If two specialist communicable disease epidemiologists were required in each region, 30 in total, and a further 20 based nationally, then all 50 could be trained in this training programme with a complement of eight senior registrars. Because of this possibility, but more important because of the acute shortage of experienced doctors in this field, the senior registrar establishment should be increased from the present five to eight in 1989/90 when new accommodation for CDSC becomes available.

The short attachment scheme for senior registrars in general community medicine should be expanded from the present eight each year to twelve as soon as the additional consultant, field services, is appointed and adequate scientific and secretarial support staff are available. In the longer term the need for this short training period for community physicians may decline if more of them are trained in the expanded four-year CDSC training programme proposed above.

Senior registrar training should be extended to provide for the training of microbiologists and clinicians. It is suggested that all medical directors of public health laboratories should have epidemiological training which should include at least the short course (3-4 weeks) in epidemiology and statistics at the London School of Hygiene and Tropical Medicine and at least six months training in CDSC.

It is important that microbiologists and particularly clinicians are recruited to the consultant staff of CDSC and, for these doctors, senior registrar training should include at least the combined course in epidemiology and statistics at the London School of Hygiene and Tropical Medicine and at least 12 months at CDSC.

The establishment of the Training Section in CDSC will enable three approaches to be explored (1) the recruitment of registrars or senior registrars in microbiology or clinical medicine into the CDSC community medicine training programme, and providing them with academic training to enable them to be doubly qualified, and then to be accredited in community medicine. (2) appointment of consultant microbiologists and physicians to CDSC and providing appropriate training and academic teaching in the first year or two of their appointment. (3) devising a training programme in epidemiology for microbiologists and clinicians which would be acceptable as accredited higher specialist training in these specialties, as well as in community medicine.

It is particularly important for the future of CDSC and PHLS that there should be substantial clinical expertise in the Centre and close association with clinicians in all specialties, for three main reasons; first, to promote surveillance of clinical disease and to develop methods of detecting quickly new diseases; second, to provide advice on clinical aspects of communicable disease to PHLS staff and also to outside enquirers; third, to ensure that the Centre is constantly aware of the changing clinical conditions and problems as they occur. CDSC could have perhaps been better sited to achieve these aims, for example, close to an infectious disease unit in a busy district general hospital as is the Communicable Diseases (Scotland) Unit. The absence of such an advantage make it all the more important that a strong clinical presence is

developed and maintained in CDSC through combined clinical/epidemiological training programmes.

Statistical and computing staff

The Statistics and Computing Section should be developed to provide not only adequate statistical support for the three CDSC Divisions but also for other PHLS Units, PHLS working parties and committees. Links which formerly existed between ERL and the Department of Statistics at the London School of Hygiene and Tropical Medicine should be re-established. PHLS should provide funding and facilities for training in statistics in three ways; first by enabling unqualified staff to take basic courses in statistics; second, by supporting qualified staff in attending full-time higher degree courses, as is currently the case for microbiologists; third; by providing senior staff with time and facilities to obtain doctorates.

Statistics. The present establishment of approximately four whole-time equivalent statisticians (one externally-funded and one new post not yet filled) and one student, should be increased in the five-year programme to six senior statisticians, two basic grade statisticians and one student, as follows (Appendix 11):

1986/87. Basic Grade Scientist. New post agreed. A training post with a particular commitment to the AIDS surveillance programme.

1988/89. Regrade of section from Principal Scientist to Top grade scientist.

1987/88. Basic Grade Scientist. New post. A training post in which the person appointed would be given experience in all three Divisions of CDSC and opportunities for post-graduate training.

1988/89. Head of Section, Top grade scientist. Extend from 0.79 to full-time.

1988/89. Senior Scientist. New post. Would work in all Divisions but particularly required at this time to support the Surveillance and Information Division in which, statistical expertise will be needed to obtain the maximum benefit from the computerisation of laboratory data and other surveillance data.

1989/90. Senior Scientist. New post. Would work mainly in the Vaccination and Immunisation Division and would coincide with the appointment of a consultant virologist to the Division. This post would be complementary to existing statistical support in the Division and might for example be particularly concerned with mathematical modelling.

1990/91. Senior Scientist. New post. This post would have responsibility for the AIDS surveillance and HIV infection surveillance programmes and would continue the Medical Research Council funded post 1987 to 1990.

1991/92. Principal Scientist new post. Deputy head of Section. This post would be particularly concerned with providing statistical support for the Field Services, Research and Training Division and for other PHLS Units, PHLS working parties and committees.

Computing. The statistics and Computing Section should ensure that adequate computer staff and facilities are provided for CDSC and for this purpose it is important that the staff should be closely linked with a computing unit, either within PHLS or outside. In this way CDSC computer staff would not become isolated, would be adequately supervised and would

have available the necessary skilled back-up. It might be an advantage if the computer staff of CDSC were members of the PHLS Computer Services Unit and deployed by that Unit to CDSC through the Statistics and Computing Section. This would need to be considered in the light of PHLS proposals for computerisation which are not yet available. However, it is anticipated that, in addition to the present full-time computer scientist in CDSC, there would be a need for the equivalent of at least another full-time person to support the laboratory data computer system at CDSC, to develop systems for specific surveillance programmes, for research work and for the computerisation of the CDR mailing list.

Administrative and secretarial staff

The administrative and secretarial staff structure should be reviewed as soon as possible because of the continuing staff shortage which has led to the costly employment of temporary staff, many of whom have been less than satisfactory. The present establishment is 1 SAA Centre Administrator, 1 GAA Deputy Administrator and Director's Secretary, 6.79 WTE HCO (2.50 vacant) and 1 PS (vacant). It is proposed that 1 SAA should be regarded to Scale 9, 1 GAA to SAA and 5 HCO to GAA, and to establish 1 new SAA, 3 new GAA and 3 new HCO posts in the five- year programme as follows: (Appendix 11).

1986/87. Regrade Centre Administrator SAA to Scale 9 and the Deputy Administrator Director's Secretary GAA to Scale 4. Five senior secretary posts should be regraded from HCO to administrative secretary GAA, namely Director's Assistant Secretary, Deputy Director's Secretary, Dr. Bartlett's secretary, Dr. Noah's secretary and Dr. Hall's/Dr. McCormick's secretary.

1987/88. Administrative secretary, Vaccination and Immunisation Division GAA. New post to replace externally-funded post of Dr. Christine Miller's Secretary.

1988/89. Assistant Administrator, GAA New post to provide assistance to the Director, in particular in personnel matters, travel arrangements, attendance at courses, travel and subsistence claims.

1988/89. Secretary to Consultant, gastro-intestinal disease in Field Services, Research and Training Division. HCO. New post.

1989/90. Two HCO. New posts. Secretaries to two newly-appointed consultants, virology and respiratory disease.

1990/91. Administrative Secretary to Consultant, surveillance. GAA. New post.

1990/91. Project manager. SAA. New post to manage the preparation and move to new CDSC accommodation.

Scientific staff

All three Divisions require scientific staff to work as epidemiologists (non-medical epidemiologists) alongside their medical colleagues; this is particularly so in the Surveillance and Information Division in which a medical training is less necessary than in the other two Divisions involved in field investigations, field trials of vaccine and research. Most of these staff are at present on administrative salary scales and, in the development of the Division in the next five years some should be replaced by scientific scales, but junior posts should be retained on these administrative scales. The intention would be to

provide a career structure in CDSC, ranging from junior staff without scientific qualifications to senior staff with doctorates holding posts similar to medical consultant level of responsibility. As with the CDSC statistical staff, PHLS should provide for training which would include, (i) basic courses in health information, statistics and epidemiology (ii) facilities for suitable staff to study for basic science degrees (iii) support for attending post-graduate degree courses in, for example, information science and epidemiology (iv) provision of time and facilities for study for doctorates.

Surveillance and Information Division staff This Division, a combination of the present Information Section and the Laboratory Reporting and CDR Section, at present comprises an establishment of 1 senior scientist, technical editor of the CDR, three senior administrative assistants, 5 WTE general administrative assistants, 4.68 WTE higher clerical officers and 6.81 WTE clerical officers. It is proposed that the approximately 11.50 WTE clerical staff should remain, 1 SAA post and 2 GAA posts should be regraded to 3 basic grade scientist posts and 2 SAA and 3 GAA posts retained. New posts of 1 basic grade scientist (Lab. reporting system), 1 senior scientist (surveillance), 1 senior scientist (information systems), 1 principal scientist, (Deputy editor, CDR), 1 SAA Art editor and 1 Senior Chartist should be created as follows. (Appendix 11).

1987/88. Basic Grade Scientist. New post to assist Dr. McCormick in the development and management of the new computerised laboratory reporting system.

1988/89. Principal Scientist. New post. Deputy Editor, CDR.

1988/89. Senior Scientist, surveillance. New post. To develop the new Information Section of the Division.

1988/89. Regrade 1 SAA post and 2 GAA posts to Basic Grade Scientist; 2 SAA and 3 GAA posts to remain.

1990/91. Senior Scientist, information systems. New post. To work in the new Data Collection Section on the development and coordination of routine and special information systems.

1991/92. Art Editor SAA. New post. To work in the new Editorial Section in the development and production of the CDR and other reports and publications and to manage the production and distribution of visual aids to CDSC and PHLS.

1991/92. Senior Chartist. New post. to provide additional support for the production of graphs, diagrams and maps for the CDR and other reports and publications and for teaching purposes.

Field Services, Research and Training Division. In this Division, field epidemiologists will require the support of a non-medical epidemiologist, a research assistant, an environmental health officer, a nurse epidemiologist and a training officer to fulfil the field investigation, field research and training demands on CDSC. The proposals are as follows. (Appendix 11):

1988/89. Senior Scientist, Epidemiologist. New post. To coordinate the field activities of the Division, to assist in field investigations, to advise on the design of questionnaires, to ensure the necessary data handling facilities are available for their analysis, to ensure the prompt

completion of reports and to edit these before distribution and prepare from them summaries for the CDR.

1989/90. Senior environmental health officer. New post. To provide environmental health expertise in field investigations, in research projects and in CDSC training programmes. This would be particularly relevant in food, water and milkborne disease and diseases associated with environmental conditions in buildings. The post might be appropriately linked with a London environmental health department.

1989/90. Senior nursing officer. New post. To provide nursing expertise in the same areas of work but particularly in person-to-person spread diseases, and outbreaks affecting children. The person appointed would work closely with the consultant paediatric epidemiologist and where appropriate with the staff of the Vaccination and Immunisation Division and the Division of Hospital Infection of the Central Public Health Laboratory.

1990/91. Basic Grade Scientist Research Assistant. To assist in the planning and coordination of field research, particularly PHLS multicentre studies.

1990/91. Higher clerical officer. Data preparation. To work with the research assistant in the handling of survey and research data.

1991/92. SAA Training Officer. As the training activities of CDSC develop this post will be required to plan and coordinate courses and training programmes under the guidance of the responsible consultant.

Vaccination and Immunisation Division. The early expansion of this Division is required to repair the depletion of staff in the former ERL. The present staff comprise 1 full-time principal microbiologist, 1 SAA, 2 GAA, 1.83 WTE HCO and 1.32 WTE CO. The regrading of the principal microbiologist to top grade microbiologist is proposed and the establishment of 5 new posts, 1 senior scientist, 2 basic grade scientists and 2 GAA. (Appendix 11).

1988/89. Senior scientist vaccine surveillance. New post, to take part in the development of sentinel surveillance systems of vaccine uptake, vaccine reactions and serological monitoring of the population, and to manage these systems and coordinate them with other activities of CDSC and with the Virus Reference Laboratory.

1988/89. Basic Grade Scientist. New post. Research Assistant. To assist the top grade scientist in vaccine research.

1990/91. GAA vaccine research. New post. This post is intended to provide assistance to the consultant virologist particularly by managing newly established research programmes.

1990/91. GAA vaccine surveillance. New post. To assist in the surveillance of immunisation programmes.

1991/92. Basic Grade Scientist. New post. Research assistant to the consultant virologist.

PHLS AIDS Unit

The staffing of the proposed PHLS Aids Unit will be derived partly from CDSC and will probably include 2 full-time consultants, 1 full-time senior registrar and a full-time GAA as well as substantial contributions from other staff. A recent MRC grant will add 1 senior scientist statistician, 1 basic grade scientist research assistant, 1 GAA administrative secretary, 1 HCO data processor and 1 senior nurse field investigator for 3 years 1987-1990. Additional staff may be required during the five year programme and also funding to continue the MRC staff in post beyond 1990, or at the end of the grant period. Until the AIDS Unit is set up and functioning, it is not possible to plan for this in the five-year programme.

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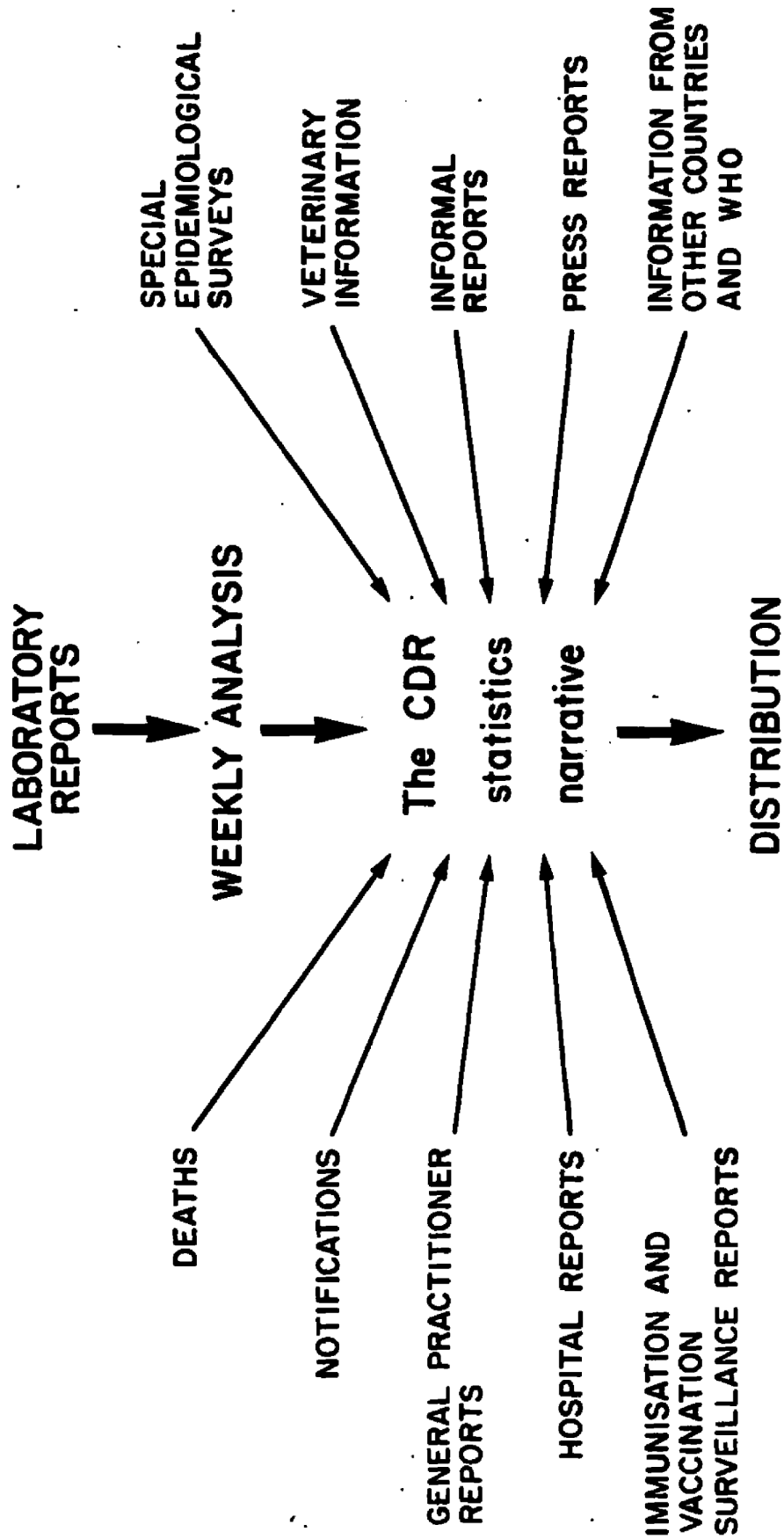
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APPENDIX 1

CDR Flow Diagram

COMMUNICABLE DISEASE SURVEILLANCE CENTRE

Weekly Communicable Disease Report (CDR)



Main CDSC Surveillance Programmes

<u>Campylobacter</u>	Laboratory reports Special survey	Total reports Outbreaks	4 weekly Annual
<u>Cholera</u>	Laboratory reports Notifications DEP	Serotype, Age, Sex, Country of infect. Line listing	4 weekly Annual
<u>Cryptosporidium</u>	Laboratory reports Special survey	Region	4 weekly Annual
<u>Dysentery</u>	Laboratory reports Notifications	Organism, Age Region	4 weekly Annual
<u>E.coli</u>	Laboratory reports	Serogroup Region	4 weekly Periodic
<u>Giardia</u>	Laboratory reports	Age	4 weekly, Annual
<u>Haem. colitis</u>	D E P reports	Line listing	Periodic
<u>Rotavirus</u>	Laboratory reports	Age, Region	4 weekly Periodic Annual
<u>Yersinia</u>	Laboratory reports	Age, sex Region	4 weekly Periodic Annual

Helminths

Laboratory reports HIPE	Organism, Age, Region, Site of infection. Contact with animals	4 weekly Annual
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Hepatitis

A & B (Infective jaundice)	Laboratory reports RCCP, HIPE Notifications Deaths. Industrial disease data.	Age, sex, Region Occupational risk Annual	Weekly Periodic Annual
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CDC ROUTINE SURVEILLANCESURVEILLANCE REPORTANALYSISDATA SOURCEORGANISM/DISEASE
GROUPAIDS & HIV

Clinical Qs Lab reports of HIV infection/ opportunistic infection Deaths	Age, Sex Risk group Region Deaths	4 Weekly Quarterly Annual
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Bacteraemia and
Meningitis

<u>Bacteraemia</u>	Laboratory reports	Age, clinical features. Region	4 weekly Annual Periodic
<u>Bacterial Meningitis</u>	Laboratory reports Notifications Deaths, HIPE	4 weekly rotating tables Age, sex, Region	4 weekly Periodic Annual
<u>Meningococcal Pneumococcal M. influenzae Listeria</u>	Manchester Ref. Lab. DMRQC		

Food Poisoning

<u>Salmonellosis</u> <u>Cl. perfringens</u> <u>Staph. aureus</u> <u>B. cereus</u> <u>V.parahaemolyticus</u> <u>Botulism</u> <u>Viral</u>	Laboratory reports Notifications Deaths Outbreaks by source, organism, region. Deaths	Organism, serotype, phage type. Region Outbreaks by source, organism, region. Deaths	Weekly 4 weekly Quarterly Annual
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<u>Milk and Water borne Disease</u>	Laboratory reports Outbreak reports	Line listing	Weekly Periodic Annual
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Fungal Infections

<u>Dermatophytes</u> <u>Deep seated Infections</u>	Laboratory reports	Total reports	4 weekly, Quarterly, Annual
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<u>ORGANISM/DISEASE GROUP</u>	<u>DATA SOURCE</u>	<u>ANALYSIS</u>	<u>SURVEILLANCE REPORT</u>
<u>Hospital Infections</u>			
Food poisoning	Laboratory reports MOEH reports Outbreak reports Deaths	Organism, Type of Ward or hospital Seasonal	Weekly Periodic Annual
MRSA	Special survey	Region	4 Weekly
Respiratory infections	Laboratory reports Outbreak reports	Age, Region Organism	Weekly Periodic Annual
<u>Mycobacteria</u>			
Leprosy	Notifications	Line listing	Annual
Tuberculosis	Laboratory reports Notifications HIPE Deaths	Line listing	4 weekly Quarterly Annually
Atypical mycobacteria	Laboratory reports	Line listing	4 weekly Quarterly Annual
<u>Paediatric Infections</u>			
Haem. shock encephalopathy syndrome	BPSU clinical reports	Line listing	Annual
Haem. uraemic syndrome	BPSU clinical reports	Line listing	Annual
Kawasaki	BPSU clinical reports	Line listing	Annual
Reyes syndrome	BPSU clinical reports	Line listing	Annual
<u>Protozoa</u>			
Malaria	Laboratory reports Malaria Ref. Laboratory Notifications Deaths.	Type, age Country of Infection	4 weekly Quarterly Annual
Other protozoa	Laboratory reports	Type, Age Region	4 weekly Periodic Annual
<u>Enteric fever</u>			
Typhoid & paratyphoid	Laboratory reports DEP. Notifications MOEH reports	Line listing	4 weekly Quarterly Annual
All Salmonellas	Laboratory reports (Bacteremia and meningitis)	Age, sex Region	4 Weekly Quarterly

<u>ORGANISM/DISEASE GROUP</u>	<u>DATA SOURCE</u>	<u>ANALYSIS</u>	<u>SURVEILLANCE REPORT</u>
<u>Sexually Transmitted Disease</u>			
Syphilis, Gonorrhoea	Laboratory reports DHSS clinic returns Notifications	Organism, sex, Region, Site Country of Infection	4 weekly Periodic Annual
Chlamydia trachomatis	Non specific G U		
Herpes.			
Papilloma virus			
<u>Staphylococci and Streptococci</u>			
Staphylococci	Laboratory reports (Bacteraemia and Meningitis)	Age, Region	4 Weekly Periodic
Streptococci	Laboratory reports (Bacteraemia and Meningitis)	Age, Region	4 Weekly Periodic Annual
Scarlet fever	Notifications	Age, sex Region	4 weekly Periodic Annual
<u>Vaccine Preventable Diseases</u>			
Diphtheria	Laboratory reports Notifications, deaths	Line listing	Periodic Annual
Measles (including SSPE)	Laboratory reports Notifications RCGP. Deaths.	Age, sex Region	Weekly 4 weekly Quarterly Annual
Mumps	Laboratory reports RCGP. HIPE. Deaths	Age, sex Region	Weekly Annual
Poliomyelitis	Laboratory reports Notifications Deaths.	Line listing	Periodic Annual
Rubella	Laboratory reports RCGP 5 city notifications Abortion statistics Nat.Cong.Rubella Surv.	Age, sex, Region Nos. pregnant	Weekly Quarterly Periodic Annual

ORGANISM/DISEASE GROUP	DATA SOURCE	ANALYSIS	SI	LLANCE REPORT
<u>Vaccine Preventable Diseases (cont)</u>				
Tetanus	Laboratory reports RCGP, HIPE Deaths, Questionnaires	Line listing		Periodic Tri-annual
Whooping cough	Laboratory reports RCGP, Notifications Deaths	Age, serotype Region		4 weekly Periodic Annual
<u>Viral Haemorrhagic Fevers</u>				
Lassa fever	Clinical reports Notifications	Line listing		Periodic
<u>Viruses</u>				
Adenovirus	Laboratory reports	Type, Age, Region Clinical features		Weekly, 4 weekly Periodic Annual
Aseptic meningitis	Laboratory reports Notifications	Age, sex Region		weekly Periodic Annual
Astrovirus	Laboratory reports	Age, sex Region		Weekly Periodic
Calicivirus	Laboratory reports VRL	Age/sex		Weekly Periodic
Coxsackie virus	Laboratory reports	Type, Age Region		Weekly Periodic Annual
Cytomegalovirus	Laboratory reports	Age, sex Region		Weekly Annual
Echovirus	Laboratory reports	Age, sex, type Region		Weekly Periodic Annual
Herpes simplex	Laboratory reports	Site Age Sex		Weekly Annual
Herpes zoster	Laboratory reports RCGP Deaths HIPE	Age, sex Region Season		Weekly Annual

ORGANISM/DISEASE GROUP	DATA SOURCE	ANALYSIS	SURVEILLANCE REPORT
<u>Viruses (cont)</u>			
Chickenpox	Laboratory reports RCGP, HIPE Deaths	Age, Sex, Season Complications Deaths	Weekly Periodic Annual
Infectious mononucleosis (EB virus)	Laboratory reports RCGP	Age Region	Weekly Periodic Annual
Mycoplasma pneumoniae	Laboratory reports	Age, Region	Weekly 4 Weekly Annual
Parainfluenza	Laboratory reports	Age, type	Weekly 4 weekly Periodic Annual
Parvovirus	Laboratory reports	Age, sex Region	Weekly Periodic
Rabies	VRL Notifications Deaths	Line Listing	Periodic
RSV	Laboratory reports	Age, Region	Weekly 4 weekly Periodic Annual
SRSV	Laboratory reports	Region	Weekly Periodic Annual Annual
<u>Respiratory Diseases</u>			
Influenza	Laboratory reports VRL RCGP, Total bronchitis, pneum. Influenza deaths, Emergency bed service (London)	Weekly (Wks 44-25) Age, Region, Type	Weekly Interim Periodic Annual
Legionnaires disease	Laboratory reports DHQIC, Questionnaires Deaths	Line listing	4 weekly Periodic Annual

<u>ORGANISM/DISEASE GROUP</u>	<u>DATA SOURCE</u>	<u>ANALYSIS</u>	<u>ELLANCE REPORT</u>
<u>Zoonoses</u>			
Anthrax	Laboratory reports Indust. notifications Notifications Deaths	Line listing	Periodic
Brucellosis	Laboratory reports HIPE	Line listing	4 weekly Annual
Chlamydia psittaci (Ornithosis)	Laboratory reports	Age, sex Region	Weekly Periodic Annual
Cox. burnetti (Q fever)	Laboratory reports	Age, sex, region	Weekly Annual
Leptospirosis	Laboratory reports Lepto. Ref. Unit Notifications	Line listing	4 weekly Annual
Lyme disease	Laboratory reports Special survey	Line listing	Periodic Annual
Orf paravaccinia	Laboratory reports	Age, Region Animal contact	Weekly Periodic Annual
Pasteurella	Laboratory reports	Type, Age Animal contact	4 weekly Periodic
Toxoplasmosis	Laboratory reports	Age Clinical features	4 weekly Periodic

APPENDIX 3

CDC Field Investigations 1977-1986

CDC FIELD INVESTIGATIONS 1977-1986

1977	Incident	Place	CDC Epidemiologists			
1.	Echovirus 11 outbreak in a Special Care Baby Unit; 14 cases and 4 deaths	Cambridge	MDM		Newham	NS
2.	A hospital outbreak of 4 cases of typhoid fever due to disposable duodenal tubes.	London	MSG		Sandwell	PK/MSG
3.	Cluster of community-acquired cases of Legionnaires' disease	Nottingham	CLRB		UK	PK/CLRB
4.	An outbreak of gastrointestinal disease due to <i>Bacillus cereus</i> in 95 children and 7 adults in a primary school	Kent	CLRB		UK	PK/CLRB
1978					UK	PK/CLRB
1.	<i>S. virchowii</i> ; a continuing hospital outbreak 32 cases and 6 deaths over 5 years due to environmental contamination	Essex	CLRB		UK	PK/CLRB
2.	Typhoid fever; 4 cases imported from Spain	UK	GM/CLRB		UK	PK/CLRB
3.	Hepatitis A in a hospital and local community	London	DS/CLRB		UK	PK/CLRB
4.	Community outbreak of Gastrointestinal illness	Central London	DS/CLRB		UK	PK/CLRB
5.	An outbreak of 6 cases of hepatitis B following gynaecological surgery by e-antigen +ve surgeon				UK	PK/CLRB
6.	An outbreak of 34 cases of hepatitis B associated with tattooing.	Kent	MSG/MDM		UK	PK/CLRB
7.	An international outbreak of 5 cases of typhoid fever and bacillary dysentery associated with a cruise liner	UK	SRP/CLRB		UK	PK/CLRB
8.	Smallpox; a laboratory associated outbreak of two cases	Birmingham	MSG/CLRB/ SRP/RTM-W/ EW/DR/JH		UK	PK/CLRB
9.	Pneumonia associated with a factory	Nottingham	CLRB		UK	PK/CLRB
1979					UK	PK/CLRB
1.	A cluster of 5 cases of Legionnaires' disease associated with a hotel	Corby	CLRB/MS		UK	PK/CLRB
2.	An outbreak of 59 cases of primary pneumonia including 23 cases of Legionnaires' disease associated with a hotel	Benidorm Spain	CLRB		UK	PK/CLRB

- Food poisoning in old peoples accommodation affecting 73 people
- Outbreak of 11 cases of tuberculosis and about 100 infections associated with a tuberculous swimming pool attendant
- Food poisoning from Russian canned salmon
- Food poisoning from Malteses corned beef
- Outbreak of tuberculosis in a primary school due to an infected teacher
- Measles in a primary school affecting 52 children
- Typhoid and Paratyphoid fever.
- Large milkborne outbreak of over 3000 cases of campylobacter infection
- Spurious outbreak of 2 cases of typhoid fever in a hospital
- Viral illness; 45 cases of Echo 24 in East and West Hull
- A large outbreak of acute respiratory disease with high infant death rate in Naples
- An outbreak of four cases of foodborne typhoid fever due to a carrier in a Kebab House
- A case of diphtheria
- An outbreak of pneumonia among members of a package holiday party visiting Spain
- Outbreak of measles in unvaccinated and vaccinated children in a primary school

1980

- A cluster of 4 cases of Legionnaires' disease associated with a hospital
- Viral Gastroenteritis
- A case of cholera
- Outbreak of viral food poisoning
- Illness in holiday makers in returning from Kenya
- 33 cases of Gastroenteritis associated with Oysters following a dinner dance

7.	Hospital outbreak of 20 cases of <u>Salmonella kedougou</u> infection associated with gastroscopy	Hull R.I.	BHO/C/CLRB	30. Psittacosis in an Agricultural College	Kent	SRP
8.	Measles in Midsoner Norton; 7 cases in a secondary school	Bath	SRP	31. Hospital salmonella outbreak	Dewsbury	SRP
9.	Respiratory illness of cause unknown	London	SRP	32. Skin rash	Lincoln	SRP
10.	Outbreak of Gastrointestinal disease affecting 13 children	Newham	CLRB/KG	33. Outbreak of ornithosis in 4 Vets associated with a duck processing plant	UK	SRP
11.	Hospital outbreak of 12 cases of legionnaires' disease associated with a hot water system	Kingston	CLRB	34. Giardiasis: cluster of cases	Camden London	PRG
12.	A cluster of 5 community-acquired cases of legionnaires' disease associated with a demolition site.	Central London	CLRB	35. Food poisoning at a hotel	Hillingdon	PRG
13.	Food poisoning outbreak in a college affecting 67 students	Bristol	SRP	36. Typhoid fever in a food handler	London	CLRB/LL
14.	Nosocomial salmonella outbreak in children associated with cross contamination of milk feeds in a refrigerator	London	SRP	37. G.I. disease in travellers from Mombasa	London	CLRB/LL
15.	Epidemic fainting	Nottingham	SRP	38. Investigation of a case of legionnaires' disease associated with a hotel which had been implicated as the source of an outbreak in 1979	Corby	CLRB/LL
16.	Psittacosis in a school; 11 cases probably due to person to person spread	Taunton	SRP	39. Respiratory illness	SE London	CLRB/LL
17.	Whooping Cough in a Day Nursery	Haringey	CLRB/YKL	40. Yersiniosis; outbreak of 40 cases in a boarding school associated with a school farm	Manchester & Barnet	CLRB/LL
18.	An outbreak of 23 cases of Erythema Infectiosum at a Primary School	Uxbridge	CLRB/YKL	41. Tuberculosis	Dartford	YKL/MDM/CLRB/MDM
19.	A case of Ornithosis in a feather processor	Norfolk	SRP/JCB	42. Epidemic collapse of 400 children at a pop festival	Mr. Mansfield	YKL
20.	Hospital salmonella outbreaks	Eastbourne	SRP	43. An outbreak of 54 cases of hepatitis A associated with consumption of raspberries at a dinner	London	MDM/YKL
21.	Paratyphoid B; 13 cases in holiday makers returning from the Algarve, Portugal	UK	SRP	44. Hepatitis A outbreak; 17 cases associated with raspberry ice cream at a birthday party	Haringay	SMH/MDM
22.	73 cases of Salmonellosis due to artificial cream Dorset	Leeds	ONG	45. An outbreak of Moxarella conjunctivitis in a residential school	Bath	ONG
23.	Salmonella food poisoning	Cardiff	CLRB/SRP	1981		
24.	An investigation of 2 cases of nosocomial legionnaires' disease in a teaching hospital	Ealing	SRP	1. 4 cases of Hepatitis in office staff	London	PRG
25.	Hospital salmonella outbreak	Carmarthen	SRP	2. Leptospirosis, 3 cases and a death in trout farmers	Hants	ONG
26.	A case of Psittacosis	Exeter	SRP	3. Food poisoning after a function, affecting approximately 95 people due to poor food handling	London	PRG
27.	Hospital salmonella outbreak	Barnstaple	SRP	4. Food poisoning in a hotel following a wedding reception affecting 35 guests	Hillingdon	PRG
28.	Hospital salmonella outbreak	Truro	SRP			
29.	Outbreak of gastroenteritis due to Norwalk virus					

5.	Family outbreak of 6 cases of hepatitis A associated with frozen raspberries	Stammore	PRG/NDN	28.	2 outbreaks of suspected food poisoning of unknown aetiology at a Golf Club	Surrey	SMH
6.	A cases of Psittacosis in N Wales. Source unknown		JCB/NDN	29.	Hepatitis A outbreak; 5 cases	Epsom & Ewell	SMH
7.	Respiratory illness in old people's home with 14 deaths			30.	Outbreak of Erythema Infectiosum (fifth disease)	Swansea	MJP
8.	Possible case of paralytic poliomyelitis	Shepperton	PRG/NDN	31.	7 cases of Hepatitis in a School of cases to case transmission	Cardiff	NDN
9.	Campylobacter enteritis; approx. 90 cases associated with unpasteurised milk	Luton and Dunstable	NDN	32.	Outbreak of 3 cases of tuberculosis in a childrens hospital due to a sputum positive visiting mother		NG
10.	Hospital salmonella outbreak	Middlesborough	PRG	33.	Listeriosis; a cluster of 10 cases possibly associated with cream	East Cumbria	JML/SH
11.	Royal Free disease	Charing Cross	SRP	34.	An outbreak of 3 cases of Campylobacter enteritis associated with raw milk consumption	Derbyshire	CLRB/EPW
12.	4 cases of salmonellosis in a hospital	Kent	SRP	35.	69 reported cases of Gastroenteritis associated with a hotel	Hillingdon	PM/ONG
13.	Salmonellosis in a party of school children associated with a cruise liner	Leicester	SRP	36.	Two cases of vaccine associated poliomyelitis	Devon	ONG
14.	A cases of S. Paratyphi B Tauton from a Kebab House	Islington	NG	37.	A cases of S. Paratyphi	UK	CJM
15.	Skin infection affecting 10 people in a factory	Little-hampton	RTM-W	38.	Respiratory illness in office staff	London	EPW/ONG
16.	Gastroenteritis in office staff due to a viral agent	London	NDN	39.	Campylobacter infection associated with dairy products	London	PRG/CLRB
17.	Hepatitis at residence for homeless persons	Bethnal Green	PRG/NDN	40.	Acute haemorrhagic conjunctivitis		JML
18.	Waterborne outbreak of 259 cases of campylobacter infection in a school	Essex	SRP/PRG	41.	Adenovirus infection in the eye		JML
19.	Hepatitis in Young Family Day Care Centre affecting 27 people	N. Camden	ONG	42.	Infectious Hepatitis	Southend	NDN
20.	A case of Jaundice	Rochford	NDN/NDN	43.	Gastroenteritis outbreak affecting 160 office staff	City of London	NDN
21.	Suspected Q Fever at an Agricultural college	Plumpton	DB	44.	A case of poliomyelitis	Bedfordshire	NDN
22.	Salmonella community outbreak	Rhyl	SRP	45.	Infectious hepatitis outbreak in South-East England	UK	NDN/CLRB
23.	Hospital salmonella outbreak	Taunton	SRP	46.	Salmonella outbreak in a hospital	Hackney	SMH
24.	9 cases of infectious Hepatitis occurring in a caravan/chalet site	Swansea	NDN	47.	Conjunctivitis in a factory	Basilidon	SH
25.	A localised outbreak of Q fever	Newport	SRP	48.	Two cases of Typhus	Barnet	SH
26.	3 cases of Haemolytic uraemic syndrome in children attending a nursery	London	SRP	49.	A cluster of 6 cases of Legionnaires' disease associated with a cooling tower on a nuclear power station under construction	Haysham	CLRB/SM
27.	Gastrointestinal illness at a Youth hostel	Derbyshire	PRG	50.	An cluster of 4 cases of legionnaires' disease associated with a hotel in Florida	Multi-district	CLRB

1982

1.	A cluster of community-acquired legionnaires' disease	North London	CLRB/GW	24.	A case of legionnaires disease associated with a cruise liner	Southampton	CLRB
2.	Possible vaccine associated case of poliomyelitis	Gloucester	SRP	25.	Salmonellosis in a hotel	Guildford	NDW
3.	Campylobacter infection in a school affecting 8 boys and 3 kitchen staff	Bucks	ATM-W	26.	E.coli O18C enteritidis in a Special Care Baby Unit	TR/CLRB	TR/CLRB
4.	Winter vomiting at a Military School	Dover	ONG	27.	A death from diphtheria,	Winchester	MSG
5.	Q-Fever in a rural community	Uckfield	DGM/CLRB	28.	Salmonellosis	Bradford	JEP/CLRB
6.	Food poisoning in a hospital	Beds	DGM/CLRB	29.	A cluster of 2 cases of legionnaires' disease associated with a hotel	Sandown Isle of Wight	CLRB/JEP
7.	Milkborne campylobacter enteritidis in boys' boarding school	Crawley	DGM/CLRB	30.	A fatal case of Typhoid fever	UK	PRG/CLRB
8.	A case of poliomyelitis like syndrome	Shrewsbury	RPG	31.	Hepatitis A outbreak	NE Essex	JEP/CLRB
9.	Gastrointestinal illness in laboratory staff	London	SMH	32.	Illness following a scientific meeting	Colchester	NDW/JCB
10.	Household outbreak of tuberculosis	London	ONG	33.	Gastrointestinal illness associated with a Conference in Majorca	UK	SA/CLRB
11.	Hepatitis A due to shellfish	Bristol	DGM/CLRB	34.	Cluster of cases of bacteraemia in a hospital	Sheffield	SA/CLRB
12.	Hepatitis in a School	Ware, Herts	MCDH/NDH	35.	An outbreak of gastro-intestinal illness	Newcastle upon Tyne	JEP/CLRB
13.	S. enteritis infection in a hospital	Redhill	MCDH/CLRB	36.	Illness with rash in approximately 30 recruits cause unknown	Shorncliffe	JEP/NDW
14.	Outbreak of Measles and chickenpox in a Hospital creche	Roehampton	DGM	37.	Cluster of cases of Kawasaki's disease	Newcastle	SMH
15.	Recent unexpected heat reactions in children aged 11-13 yrs.		ONG	38.	Gastro-intestinal illness in a school		JEP/CLRB
16.	Rashes in a school	Hillingdon	MCDH/MH	39.	Outbreak of Clostridium difficile diarrhoea in a hospital, probably associated with increased detection of organism	Batham	SMH
17.	Outbreak of Hepatitis A due to cockle consumption	Basilton & West Country	MCDH/CLRB	40.	Outbreak of diphtheria in an army barracks	London	ONG/SRP/SH
18.	Gastrointestinal illness associated with Canadian canned salmon	UK	ONG	41.	Respiratory tuberculosis in a surgeon	London	MP/CLRB
19.	Paratyphoid fever	Suffolk	RPG	42.	Food poisoning at a hospital for mentally handicapped	Chertsey	SMH/MP
20.	National outbreak of over 250 cases of S. Napoli due to chocolate	Southern	CLRB/ONG/PNS	43.	Typhoid in 3 patients in a hospital	London	MP/CLRB
21.	Mycobacterium bovis infection	Birmingham	RPG	44.	Humidifier fever in an office	Surrey	PM
22.	Outbreak of salmonellosis affecting persons travelling on Thames river boats	London	TR	45.	Hepatitis in Epsom	Portsmouth	SH
23.	Streptococcal infection in a mental hospital	Chichester	SH/RTM	46.	Acinetobacter outbreak in a hospital	S. Lakeland	SH
				47.	Outbreak of hepatitis at Windermere	London	CLRB/IM
				48.	Outbreak of primary atypical pneumonia in a government printing office		

1983

1. Viral gastroenteritis after a reception	London	ONE/CLRB/ MB	23. Food poisoning in travellers returning from Spain	UK	MC/CLRB
2. Influenza amongst geriatric patients	Salisbury	MB	24. Outbreak of Adenoviral Infections	Plymouth	CLRB/RS
3. Outbreak of 3 cases of diphtheria	Nottingham	MBCE	25. Outbreak of salmonellosis	Cuckfield	SEJY/MBCE
4. An outbreak of waterborne streptobacillary fever	Chelmsford	MBCE/NDH	26. Glandular fever in a public library	London	NDH/MBCE
5. Outbreak of over 20 cases of illness following the ingestion of Confrey Tea due to contamination with belladonna leaf	UK	MBCE	27. Outbreak of gastroenteritis due to Rotavirus in a school	Colchester	MB/CLRB
6. Illness associated with a holiday in Antigua	UK	MBCE	28. Increase in infant deaths	SE London	MB/CLRB
7. A case of legionnaires' disease associated with a hotel	UK	MBCE	29. A case of diphtheria	Cardiff	CLRB/SRP/ MC
8. Outbreak of gastroenteritis	London	CLRB/HW/PJ	30. A cluster of 4 nosocomial cases of legionnaires disease in a teaching hospital	Windsor	CLRB/AD/GM
9. Yellow Palms and Feet in children due to consumption of oranges	Bridgenorth	MBCE	31. Outbreak of yersiniosis in a school, probably foodborne	HM/ONG	HM/ONG
10. Outbreak of Fifth disease shown to be due to parvovirus	UK	EL/CLRB	32. Outbreak of G.I. illness at a factory	Cambridge	HM/ONG
11. Glandular fever outbreak	Enfield	EL/SH	33. Rubella outbreaks in Service personnel	Sussex	HM/ONG
12. Infectious hepatitis at Primary School	Hastings	EL/CLRB	34. Psittacosis associated with a pet shop	SS	RSS/CLRB
13. Haemolytic Uraemic Syndrome; a cluster of 19 cases, no obvious common factor	Folkestone	RSS	35. Waterborne outbreak of campylobacter in a school	UK	RSS/CLRB
14. Gastroenteritis at a holiday centre	Midlands	MBCE/SH/ PRG	36. An international outbreak of over 50 cases of typhoid fever in holiday makers returning from one hotel in Kos, probably due to contamination of salad by a carrier caterer	Somerset	RSS/CLRB
15. Tuberculosis in a paediatric department in a hospital	Oxford	SMH	37. Gastrointestinal illness in a school	Hammersmith	SMH
16. Food poisoning following a wedding reception	Merton	RTM-W/AD	38. Food poisoning at a hotel	Camden	SMH
17. Illness following a Summer Ball	Swindon	RSS	39. Listeriosis among mannosets at London zoo	Swansea	SRP
18. Gastroenteritis in visitors to Menorca	London	MC/CLRB	40. A risk of anthrax from a disused gelatin-producing factory	UK	SRP
19. Illness associated with a holiday in the Soviet Union	UK	RSS	41. Shingles; a cluster of cases in an office	UK	CLRB
20. Gastrointestinal illness in a school	Somerset	CLRB/MBCE	42. <u>Salmonella java</u> infection on a cruise liner	Reading	CLRB
21. Food poisoning at wedding reception	Northolt	GH/MB	43. An outbreak of 14 cases of legionnaires' disease associated with a hotel in Portugal		
22. Paratyphi B outbreak in Bristol holiday makers to Burgeau, due to sewage contamination of bathing beach	UK	MBCE/RSS/ GH/MB	44. A community outbreak of 16 cases of legionnaires' disease		
			1984		
			1. A case of diphtheria	N. London	SJ/NDH ONG/RS

2.	Legionnaires disease following a holiday to Italy	UK	CLRB/SJ	26.	Diphtheria	S. London	NTB
3.	Hepatitis A in 3 schools	Windsor	MCW/CLRB	27.	Shigella dysentery in a Gipsy Caravan site	Berkshire	NTB
4.	Gastrointestinal illness in a club	Windsor	MCW/CLRB	28.	A continuing common source outbreak of <u>Salmonella montevideo</u> in a general hospital	Enfield	ONG
5.	A case of nosocomial legionnaires' disease in a hospital	Essex	CLRB/RS/DH	29.	Campylobacter among trainee Royal Engineers.	East Sussex	NTB
6.	Diphtheria in a psychiatric hospital	Margate	MMB/CLRB	30.	Skin Infections in workers at an abattoir	Darlington	RSS
7.	Outbreak of salmonellosis in a hospital	London	SMH	31.	Illness of unknown aetiology in Camberley	Surrey	NTB
8.	International O/B of Staphylococcal food poisoning caused by contaminated L'assagne; 47 cases in UK	S. England	MCW/CLRB	32.	Gastroenteritis in a hospital	Dulwich	NTB
9.	Gastrointestinal illness associated with Phenol contamination of drinking water	N. Wales	RS/RJ/CLRB	33.	Salmonella outbreak in a hospital	Mansfield	RSS
10.	International outbreak of over 700 cases of <u>S. enteritidis</u> food poisoning due to contaminated aspic glaze served on an airline	UK	MDW/MCW	34.	Gastroenteritis on a cross channel car ferry	Dover	MS/RSS
11.	Food poisoning outbreak of unknown aetiology possibly caused by two different agents	Camden	ONG/JB	35.	Gastroenteritis in an old peoples home	Bradford	MS
12.	Gastroenteritis in a Holiday Camp	L. Incon	RSS	36.	Viral gastroenteritis in 4 hospitals	Blackpool, Wyne & Tyde	NTB
13.	Oyster associated food poisoning	Peterborough	PHS	37.	<u>Shigella sonnei</u> outbreak in a Day Nursery	W. Lambeth	NTB
14.	Hepatitis A outbreak	Colchester	MDW/PJ	38.	Ornithosis; case cluster	South Glam.	SRP
15.	Endemic gastrointestinal illness among residents of a lake district valley	Great Langdale	CLRB/RSS	39.	A case of Home-acquired typhoid possibly associated with 'health food'	Aberystwyth	SRP
16.	Gastrointestinal illness following a wedding reception.	Cumbria	CLRB/RSS	40.	Outbreak of cryptosporidium infection	Bristol	SRP
17.	Outbreak of <u>S. virchow</u> infection caused by contaminated hams	Essex	ONG	41.	Salmonellosis; a foodborne outbreak of over 400 cases in a mental hospital	Wakefield	NSG
18.	Gastroenteritis in a hospital	London	RSS	1985			
19.	An outbreak of 26 cases of legionnaires' disease from a contaminated whirlpool spa in a hotel	Brighton	DS/CLRB/DH	1.	3 deaths with a haemolytic Group A Streptococcus	Luton	MS
20.	Tuberculosis in Epsom and Ewell	Surrey	CLRB/RSS/CH	2.	Diarrhoea in a school	Tower Hamlets	MS
21.	Gastroenteritis	Calderdale	MDH	3.	Outbreak of respiratory infection in a geriatric ward	Surrey	MS
22.	Gastroenteritis associated with a Camping site	Hertford	CH	4.	2 cases of legionnaires' disease associated with an office building	London	CLRB/ONG
24.	Gastrointestinal illness in British visitors to Albufeira, Portugal		RSS/BE	5.	Hospital outbreak of WUSA	N. Warwickshire DHA	MDH/NTB
25.	Gastroenteritis on a cruise liner		MDH	6.	Influenza A among children in schools	Worcester	BT
				7.	Gastroenteritis in a School	Dunstable	NTB
				8.	<u>C. perfringens</u> food poisoning in a hotel	London	NTB
				9.	Outbreak of measles	Islington	VF/ONG

10. Rubella outbreak in a school	Essex	NTB	35. Gastroenteritis in hall of residence	Bangor	JT
11. A case of vaccine associated poliomyelitis	Greenwich	NTB	36. Legionella in dentistry equipment	London Hosp	ONG/JT/ACH
12. Cryptosporidium outbreak in Crawley	W Sussex	VF	37. Measles outbreaks	Camden/ Islington	ONG/GM
13. A case of Psittacosis in a hospital	Wandsworth	VF/RSS/SH	38. A case of Home acquired typhoid	Birmingham	JT
14. Outbreak of over 100 cases of acute hepatitis B in drug abusers	Corby and Wellingborough	NTB/RSS	39. Gastroenteritis in a hospital	Birmingham	NTB
15. A large hospital outbreak of legionnaires' disease due to contaminated air conditioning system	Stafford DGH	MDM/RSS	40. Salmonellosis and viral gastroenteritis in a hospital	Blackpool	ADHL
16. Outbreak of gastrointestinal illness assoc. with the consumption of raw oysters	Burnham & Crouch/	OH/ ONG/RSS	41. Hepatitis A outbreak	Bath	ADHL
17. An outbreak of Campylobacter enteritis	Leeds	GH	42. Illness in office staff	Southampton	ADHL
18. S. enteritidis food poisoning in holiday makers returning from Ibiza.	UK	GM	43. Illness of unknown aetiology	South Beds	NTB
19. Gastrointestinal infections on a cruise liner	UK	GH	44. Hepatitis A outbreak	Leeds	NTB
20. Mycobacterium chelonae infections associated with a hospital hydrotherapy pool.	Poole	NTB/MDM	45. Outbreak of 7 cases of legionnaires' disease at Police HQ	L. Lincoln	MDM/AL
21. Meningococcal meningitis outbreak	S Warwickshire	NTB	46. Infectious Hepatitis outbreak	Bratton	ADHL
22. An outbreak of 5 cases of legionnaires' disease associated with an Industrial Estate	Ramsgate	NTB/MDM	47. Gastrointestinal illness in a college		MG
23. MRSA in a Maternity Unit and SCBU		NTB	48. S. m. kasasima outbreak		MG
24. Waterborne outbreak of <u>Giardia lamblia</u>	Bristol	NTB/JT	49. Viral gastroenteritis in a hospital	Scotland	ONG
25. A case of legionnaires disease in a hospital	N. London	NTB	50. Hospital outbreak of MRSA	UK	MG
26. Suspected case of legionnaires disease in an old peoples home	Northampton	GM	51. Salmonella food poisoning in air travellers due to contaminated food served in flight	Bangor	JC
27. Respiratory illness in a hospital	Ealing	RSS	52. Pneumococcal conjunctivitis in a Boy's Boarding School	Epsom & Ewell	RSS/AMI
28. Outbreak of Hepatitis A in an army camp	Gloucester	CS/JB	53. Cryptosporidiosis; case cluster	Luton & Dunstable	JMC/CLRB
29. Salmonella food poisoning	Welling Borough	NTB	54. 2 cases of legionnaires' disease in a hospital	Cardiff	SRP
30. Shigella and cryptosporidium outbreak		CN	57. Cluster of 3 cases of aplastic anaemia of unknown aetiology	N. Wales	SRP
31. A case of possible paralytic poliomyelitis	Rotherham	NTB	58. Outbreak of Cryptosporidiosis	N. Wales	SRP
32. Fifth disease outbreak	N Yorks	SMH/GM	59. Salmonella food poisoning outbreak		
33. Psittacosis in workers in a duck processing plant	Bromham Devises	CN	1986		
34. Haemorrhagic colitis; an outbreak of at least 28 cases possibly associated with handling contaminated raw vegetables	Cambridge	CN/SRP/GM	1. A case of diphtheria	NW Surrey	RSS/AMI
			2. Community outbreak of cryptosporidiosis	Surrey	AC/CLRB
			3. Outbreak of meningococcal meningitis in Stroud	Gloucester	MDM/SEJY

4.	Gastroenteritis in a hotel	Hayes	AI/NG/CLRB	26.	An outbreak of 36 cases of Cryptosporidiosis,	St. Yarmouth	IFG/CLRB
5.	Outbreak of 9 cases of respiratory infection due to Coxsackie A21 in army recruits	Dorchester	AI/CLRB	27.	Hospital outbreak MRSA	Enfield	ONG
6.	An outbreak of 26 cases of Salmonellosis resulting from person to person transmission	Blackpool	TE/CLRB	28.	An outbreak of 16 known cases of Cryptosporidiosis	Hull	IFG/CLRB
7.	An outbreak of 15 cases of Cryptosporidium infection	Wandsworth	VH/CLRB	29.	Outbreak of Salmonellosis in a hospital for serious offenders	Liverpool	CJH/CLRB
8.	Foodborne outbreak of rotavirus infection	Sunbury on Thames	AC	30.	An outbreak of diarrhoea and vomiting in a school affecting approximately 70 persons	Dulwich	CJH/CLRB
9.	16 cases and 3 deaths of Influenza A in a hospital including evaluation of use of Amantadine	Halifax	VH/CLRB	31.	A large outbreak of diarrhoea and vomiting in a hotel, cause unknown	Eastbourne	JMC
10.	Hospital outbreak of varicella	City & Hackney	ONG	32.	Hepatitis A outbreak of 97 cases due to contaminated cream buns at a school function	Cornwall	JMC/NDM
11.	Nosocomial outbreak of salmonellosis in a hospital	Stockport	JMC/CLRB	33.	Gastroenteritis of unknown aetiology on a cruise liner affecting approximately 150 people	S. London	JMC/CLRB
12.	Diphtheria in persons recently arrived from Asia	St. Albans	VH/CLRB	34.	14 cases of atypical pneumonia	Blackpool	CLRB/JW
13.	Outbreak of hepatitis A amongst restaurant staff	Kensington	VH/NDM	35.	Two cases of possible post operative tetanus after gall bladder surgery and 2 spurious 'post operative cases'	NDM/IFG	
14.	National outbreak of over 40 cases of <u>S. ealing</u> infection in infants associated with contaminated dried milk	UK	NTB	36.	A increase of Salmonellosis from stool samples	Hull	JW
15.	An increase in Echovirus type 22 isolations	Sunderland	DS/NDM	37.	An outbreak of gastrointestinal illness in a hotel of viral aetiology and spread by person-to person affecting both guests and staff	Eastbourne	JW/EN/CLRB
16.	Community outbreak of vomiting and diarrhoea, probably viral and spread by faecal oral route	Chichester	VH/CLRB	39.	Hepatitis A outbreak	Penwith	EN/NDM
17.	Outbreaks of Hepatitis A in a religious community	Hampstead Gdn Sub	VH/NDM	40.	Rise in <u>S. montivideo</u> infection in babies	UK	JW/CLRB
18.	Rotavirus outbreak at a Research Centre affecting over 64 people following a buffet probably due to preparation of fresh fruit salad.	Staines	DS/CLRB	41.	Hospital outbreak of MRSA	City & Hackney	AT/ONG
19.	13 cases of Campylobacter infection in a school due to contaminated tap water	Hertford	DS/IFG/CLRB	42.	Gastrointestinal illness in another hotel in Eastbourne	Eastbourne	EN/JW/CLRB
20.	A case of vaccine associated poliomyelitis	Southampton	NTB	43.	Meningococcal meningitis	Avon	JW
21.	Outbreak of humidifier fever in Sussex	Portsmouth	CLRB	44.	Outbreak of 3 cases of legionnaires' disease associated with travel to Italy	UK	EN/CLRB
22.	A case of legionnaires disease in a hospital	Hammersmith	JMC	45.	Salmonella infection in hospital	Chertsey	EN/CLRB
23.	Suspected food poisoning in holiday makers returning from Guernsey	UK	IFG/CLRB	46.	Measles outbreak in a mental hospital	Epsom	NTB
24.	Suspected food poisoning in a hotel	Malton	IFG/JMC/CLRB	47.	Gastrointestinal illness in a holiday camp	Stegness	EN/CLRB
25.	Milkborne outbreak of salmonellosis affecting at least 30 persons, due to pasteurisation contamination	Cambridge	JH/CLRB	48.	Large outbreak of salmonellosis due to <u>S. Braenderup</u> associated with a restaurant	Colchester	JR/CLRB
				49.	<u>S. enteritidis</u> outbreak in a hospital	St. Albans	AT & JW/CLRB
				50.	<u>S. typhimurium</u> outbreak in a hospital	Doncaster	AT/CLRB

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|---|-----------------|------------|
| 51. A case of paralytic poliomyelitis | Southampton | NTB |
| 52. A case of diphtheria in a continental Lorry driver | Sandwell | NTB |
| 53. Cryptosporidiosis outbreak in a children's nursery | Nottingham | AT/CLRB |
| 54. Gastrointestinal illness in a second children's nursery | Nottingham | AT/CLRB |
| 55. Gastrointestinal illness in a hotel (norwalk virus) | Bath | JR/SP/CLRB |
| 56. An outbreak of 39 cases of food poisoning at a hotel | Surrey | AT/CLRB |
| 57. A cluster of 3 cases of haemolytic uraemic syndrome | West Cumberland | JR |
| 58. A suspected case of diphtheria | | NTB |
| 59. A community outbreak of 14 cases of legionnaires' disease | Gloucester | CLRB/JM |
| 60. <i>S. typhimurium</i> affecting passengers on a cross channel ferry crossing | Hull | AT/CLRB |
| 61. Outbreak of typhoid in two Asian families | East Hertford | JR/CLRB |
| 62. Gastrointestinal illness affecting 19 staff at a Hospital | Yorks | JR/CLRB |
| 63. Waterborne outbreak of campylobacter | Gwent | SRP |
| 64. A large outbreak of salmonellosis in members of a medical conference due to eating contaminated chicken | Cardiff | SRP |
| 65. A case of home acquired typhoid | Porthcawl | SRP |

APPENDIX 4

CISC Current Research Projects 1986

Title	Senior Staff	Funding	Prevalence study of nosocomial infection in a DGH
PHLS Rubella monitoring and research	C Miller/ E Miller	DNSS	C L R Bartlett/ Division of Hospital Infection, CPHL
Pilot Study for continuing serological surveillance	C Miller/ E Miller	PHLS	C L R Bartlett/ British Thoracic Society/PHLS Regional and Area Laboratories
Predicting outcomes of policies by mathematical modelling vaccination	Mr. T Milstein/ E Miller/ C Miller	DNSS/PHLS	C L R Bartlett/ Division of Hospital Infection, CPHL
Pertussis acellular vaccine trial	E Miller/N Begg	MRC/PHLS	PHLS/DOHSS
Continuing follow up of measles vaccine	C Miller	PHLS	C L R Bartlett/ Caribbean Epidemiology Development Centre/ CDC Atlanta Administration
Efficacy of ZIG in protection against chickenpox in pregnancy and neonatal period	E Miller	PHLS	C L R Bartlett/ Caribbean Epidemiology Development Centre/ CDC Atlanta Administration
Parvovirus infection in pregnancy	S Hall/E Miller	PHLS	C L R Bartlett/ Caribbean Epidemiology Development Centre/ CDC Atlanta Administration
Outcome of symptomatic congenital CMV infection	E Miller/S Hall	PHLS & Action for Crippled children	C L R Bartlett/ Caribbean Epidemiology Development Centre/ CDC Atlanta Administration
Salivary diagnosis of hepatitis A immunity in travellers requesting immunoglobulin	E Miller (with VRL)	PHLS	J Cowden
Diagnosis of ultrastructural rubella infection by virus isolation, RNA hybridisation and immunoblotting	E Miller, Manchester PHL, UCH	PHLS	J Cowden
Rapid monitoring of vaccine acceptance	N Begg	PHLS	N S Galbraith
Cost benefit analysis of measles, mumps and rubella vaccine	N Begg	PHLS	N S Galbraith/ M J Barrett
Survey of District preschool immunisation programmes	N Begg	Disability Studies Unit	PHLS
Post gastric surgery study and clinical follow-up of post-gastrectomy patients at St. James Hospital, Balham	C Caygill	CRC	MRC
Post-vagotomy studies and aetiology of biliary tract cancer	C Caygill	CRC	O N Gill
ECP intestinal metaplasia study	C Caygill	CRC	O N Gill
Gastric cancer in Norfolk (Dietary comparison between inland and coastal areas of Norfolk)	C Caygill	CRC	Consiglio Naz. di Ricerche
PHLS Collaborative Study of Legionella Species in Water Systems	C L R Bartlett/ CMR/Birmingham/ Liverpool/Newcastle/ Oxford	PHLS/DOHSS	S M Hall/ BPA
			SM Hall/ Tooting PHL & ICH
			M McEvoy
			M McEvoy
			grant appl. being prepared
			HSE
			DOHSS (awaited)

Blood donor panel age and sex distribution

Ongoing evaluation of HIV antibody test

Surveillance of severe neurological disorders in infancy and their relationship to pertussis vaccine

Monitoring rubella vaccine uptake and immunity in women of childbearing age

Meningococcal survey in Stroud and Gloucester

Meningococcal survey of comparisons of notifications

Inquiry into hygienic skin piercing - barbers, beauticians etc.

Study of surveillance systems for HIV infection in Wales

Pilot study of general practice surveillance of infections in Wales

PHLS cryptosporidiosis study

Incidence of hospital diagnosed Hydatid Disease in England and Wales 1974-83

Transmission of HIV in haemophiliacs in the UK

Isolation and comparison of the molecular structure of HIV in factor 8 and 9 concentrates and patient recipients

Evaluation of new procedures for the isolation of HIV and HTLV from patient isolates.

Campylobacter pyloridis: A multidisciplinary investigation into the detection and prevention of Campylobacter pyloridis infection in man. Four linked collaboration projects.

Campylobacter jejuni: Sources of transmission and prevention of human campylobacter infection

Laboratory Computer Project: completion of the last two stages of implementation of the Leicester Microlab computer system.

Cost analysis of salmonellosis in England and Wales - PhD Thesis

Cost analysis of S. ealing outbreak following contamination of Farleys babyfeeds

Study to identify foods associated with S. typhimurium and campylobacter infection in Birmingham and cost analysis of these infections

Cost analysis of campylobacter infections in Southampton, Poole, Dorchester (associated with study of sources of campylobacter infection in Southampton area by Dr. A. Pearson)

Case-control study of sporadic S. typhimurium infections in Birmingham and survey of sporadic cases of campylobacter

Survey of notifications of tuberculosis in England and Wales in 1988

HIV infection and tuberculosis

PHLS/Leicester District HA and Information Technology LTD

LSHTM/CDC

PHLS

CDC 8 'ham EHD

PHLS/CDC

R Stanwell-Smith

J Watson

J Watson

A D Pearson

Mr P Sockett

Mr P Sockett

Mr P Sockett

Mr P Sockett

R Stanwell-Smith

J Watson

J Watson

PHLS/Leicester District HA and Information Technology LTD

LSHTM/CDC

PHLS

CDC 8 'ham EHD

PHLS/CDC

R Stanwell-Smith

J Watson

J Watson

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R Stanwell-Smith

J Watson

J Watson

PHLS/Leicester District HA and Information Technology LTD

LSHTM/CDC

PHLS

CDC 8 'ham EHD

PHLS/CDC

R Stanwell-Smith

J Watson

J Watson

APPENDIX 5

CDSC and ERL Publications 1977-1986

1977 CDC

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FRASER Cherry A M, Ball L C, Morris C A, Noah N D, Serological characterisation of group-A streptococci associated with skin sepsis in meat handlers. *J.Hyg.Camb.* 1977; 6: 115

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CDC Epidemiology: report from the PHLS Communicable Disease Surveillance Centre *Br.Med.J* 1977; 2: 133, 272, 235, 465, 584, 649, 713, 779, 901, 1230, 1296, 1425, 1547, 1610.

1977 ERL

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1978 ERL

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APPENDIX 6

CDSC Senior Registrars and Attached Senior Registrars 1977-1986

CDSC SENIOR REGISTRARS

<u>Full-time</u>		<u>Post currently held</u>	
Dr. C.L.R. Bartlett	1978	Consultant Epidemiologist Field Services, CDSC	1979 -
Dr. S.R. Palmer	1979	Consultant Epidemiologist, CDSC Wales	1983 -
Dr. O.N. Gill	1981	Regional Epidemiologist, North East Thames RHA, MOEH Islington	1984 -
Dr. S.M. Hall	1980	Consultant Epidemiologist, CDSC/ Senior Lecturer, Institute of Child Health	1985 -
Dr. R. Stanwell-Smith	1983	MOEH Bristol	1986 -
Dr. N.T. Begg	1984	Still in post	
Dr. J.M. Cowden	1985	Still in post	
Dr. G.A. Ellam	1985	Still in post	
Dr. J.M. Watson	1986	Still in post	
Dr. G. Marasca	1986	Still in post	
<u>Part-time</u>			
Dr. R.T. Mayon-White (based in Oxford)	1978	MOEH, Oxford	1985 -
Dr. D. Robinson	1979	MD WHO Geneva	1981 -
Dr. P. Gully	1981 for 6 months	MDH, Canada	1985 -

SENIOR REGISTRAR ATTACHMENTS TO CDSC SINCE 1978

2

<u>Name</u>	<u>Date of attachment</u>	<u>Post now held</u>			
Gerald Woodbine	1978	GP Southampton	Christine Mylnek	6. 8.84 - 30. 9.84	SCM Aylesbury
David Spencer	27.11.78 - 5. 1.79	NK	Barry Evans	3. 9.84 - 2.11.84	Sen. Lecturer Kings Coll.
Hugh Sanderson	9. 7.79 - 31. 8.79	SCM Messex RHA	Martin Schweiger	3.12.84 - 21. 2.84	SCM Leeds
Paula Kelly (Kilbane)	18. 6.79 - 28. 7.79	SCM Eastern Health & Social Services Board	Bernadette Theodore	28. 1.85 - 8. 3.85	Comm. Phys. Leeds
Noel Olsen	5. 2.79 - 23. 2.79	DMD Hampstead HA	Vasco Fernandes	18. 3.85 - 26. 4.85	SR Comm. Med. Hillingdon
Stephen Palmer	1.12.79 - 8.81	SCM Cardiff	Gervaise Hamilton	7. 5.85 - 14. 6.85	SR Comm. Med. Camberwell
Kenneth Grant	28. 4.80 - 6. 6.80	MOEH/DMD City & Hackney	Clive Buxton	20. 5.85 - 20. 7.85	SCM Brent HA
Paul Gully	1. 1.81 - 30. 6.81	Epidemiologist - Canada	Gillian Morgan	3. 6.85 - 2. 8.85	SR Trent RHA
Patrick Morgan	17.12.79 - 30. 4.80	SCM Kettering HA	Christopher Newman	5. 8.85 - 29. 9.85	Sen. Lect. Univ. Leeds
Michael Ross	1980	GP Liverpool	Jean Tyler	12. 8.85 - 27. 9.85	Registrar Ealing HA
Lella Lessof	11. 2.80 - 5. 4.80	DMD Islington	Azim Lakhani	7.10.85 - 29.11.85	SR Comm. Med. St. Thomas'
K. Lau	1. 7.80 - 29. 8.80	SCM Paddington	Michael Gill	28.10.85 - 28.12.85	SR NWTRHA
Mary O'Mahony	9. 3.81 - 22. 5.81	Epidemiologist - Canada	Vernon Hochuli	30. 1.86 - 28. 3.86	SR SETRHA
Dorothy Birks	1. 6.81 - 1. 8.81	SCM Tunbridge Wells	David Stewart	3. 2.86 - 28. 3.86	SR Western Health & Social Security Services Board Belfast
Chandra Sayal	17. 8.81 - 30. 9.81	SCM Derbyshire	Anne O'Connor	6. 1.86 - 4. 3.86	Eastern Health Board, Dublin
Jane Leaver	2.11.81 - 14.12.81	SCM Hackney	James Hospedales	9. 4.86 - 30. 5.86	SR Cambridge HA
Paul Wright	7.12.81 - 15. 1.82	Consultant Microbiologist Hastings	Ian Greateorex	9. 4.86 - 30. 6.86	SR Stockport HA
Christopher Watts	4. 1.82 - 14. 2.82	DMD Barking	John Watson	2. 7.86 - 3.10.86	SR CDSC
Peter Wilson	15. 2.82 - 7. 5.82	Clinical MD Torbay HA	Elizabeth Mitchell	1. 7.86 - 30. 9.86	SR Worcester HA
Michael Heath	19. 4.82 - 4. 6.82	DMD Basildon	Andrew Turner	7. 7.86 - 31.12.86	SR Manchester PHL
Michael Valle	1. 6.82 - 9. 7.82	SCM Maidstone	John Middleton	1.10.86 - 31.12.86	SR Coventry HA
Muriel Purkiss	16. 8.82 - 24. 9.82	SCM Lewisham	John Reid	1.10.86 - 31.12.86	SR St. Helens Merseyside
Julian Pedley	4.10.82 - 12.11.82	DMD Milton Keynes			
Graham Page	15.11.82 - 10.12.82	SCM N. Warwickshire HA			
Margaret Bell	4. 1.83 - 4. 3.83	DHSS NI			
Haj Meer	14. 3.83 - 27. 5.83	SCM Ealing			
Elizabeth Lewis	8. 5.83 - 1. 7.83	SCM Sutton & Merton HA			
Rosalind Stanwell-Smith	4. 7.83 - 2. 9.83	SR CDSC, MOEH Bristol			
Adrian Dawson	5. 9.83 - 30. 9.83	NK			
Mary Corcoran	3.10.83 - 25.11.83	SCM Worthing			
Stephen Jarvis	9. 1.84 - 2. 3.84	SR Northern HA			
Martin Woolaway	6. 2.84 - 30. 3.84	SCM Messex			
Edwin Jessop	3. 4.84 - 31. 5.84	Dir. Com. Med. NE Essex			
Tony Ellum	29. 5.84 - 3. 8.84	SR CDSC			
David Sloan	25. 6.84 - 24. 8.84	SCM Derbyshire HA			

Senior Registrar Training Programme

(ii) efficacy of immunisation and vaccination programmes.

This comprises the continuous assessment of the efficacy, safety and uptake of vaccines, particularly those in the routine schedule of immunisation and vaccination of childhood. It includes also the dissemination of information about vaccine surveillance to those concerned with immunisation and vaccination in the field.

(iii) Investigation and control of communicable disease.

This function involves advice and support to community physicians and others in the control of communicable disease. C.D.S.C. staff take part in epidemiological investigations with their district based community physician colleagues, especially when a disease episode is of national importance or an outbreak is geographically widespread, and work closely with public health and hospital laboratories, NHS authorities and local authorities.

(iv) Epidemiological research.

The Centre's research is service orientated and may be undertaken in association with academic departments or research institutes. It includes descriptive studies, analytical studies, such as case-control studies or cohort studies, intervention studies and field trials of prophylactic agents.

(v) Teaching and training in communicable disease epidemiology.

The Centre's staff take part in courses and seminars for community physicians and others concerned with communicable disease control. The Centre provides facilities for attachment of registrars and senior registrars in community medicine to enable them to gain field experience of communicable disease control and to give them experience in information systems in communicable disease.

Staffing of CDSC

The Centre's medical staff are community physicians with varying backgrounds in community medicine, clinical medicine and microbiology. There is a supporting staff providing statistical, data handling and information expertise and junior staff undertaking information, clerical and secretarial work.

The ten senior medical staff are:-

Director

Dr. M.S.Gallbraith

Deputy Director, Editor Communicable Disease Report

Dr. Susan E.J. Young

Specialist in Community Medicine (Epidemiology)

Dr. C.L.R. Bartlett

PUBLIC HEALTH LABORATORY SERVICE BOARDCOMMUNICABLE DISEASE SURVEILLANCE CENTRE(PHLS DIVISION OF EPIDEMIOLOGY)SENIOR REGISTRAR IN COMMUNITY MEDICINE (EPIDEMIOLOGY)INTRODUCTION

The post provides higher specialist training for community physicians wishing to follow a career in epidemiology in the National Health Service. The training will include an attachment to a health authority to equip the senior registrar for a post in general community medicine.

The senior registrar will be expected to spend at least 2 years at CDSC Colindale but the remainder of the training programme can be arranged according to the previous experience and special interests of the occupant of the post.

THE PHLS COMMUNICABLE DISEASE SURVEILLANCE CENTRE

The Communicable Disease Surveillance Centre was set up on 1 January 1977 to support community physicians in the investigation and control of communicable disease. It has recently been merged with the Epidemiological Research Laboratory of the Central Public Health Laboratory and has assumed the latter's responsibilities in the surveillance of vaccination and immunisation. It is a service unit in community medicine within the Public Health Laboratory Service, a centrally organised part of the National Health Service.

Functions of CDSC

The Centre's five main functions are:-

(i) Surveillance of communicable disease.

This involves the collection of data by routine reporting or special epidemiological surveys, the analysis of these data, their interpretation to provide information and the dissemination of this information to those who need it for preventive action. The main information output of the Centre is a weekly bulletin in the 'Communicable Disease Report'.

CDSC manages a national reporting system of laboratory diagnosed infections, which comprises the core of the surveillance activity but the Centre makes use of data from many other sources in order to obtain a comprehensive picture of communicable disease in England and Wales.

Specialist in Community Medicine (Epidemiology) (Joint post with Department of Epidemiology, Institute of Child Health	Dr. J. M. Hall
Specialist in Community Medicine (Epidemiology) (Joint post with the Office of Population, Censuses and Surveys)	Dr. Anna McCormick
Specialist in Community Medicine (Epidemiology)	Dr. Marian McEvoy
Senior Epidemiologist	Dr. Christine Miller
Specialist in Community Medicine (Epidemiology)	Dr. M.D. Roach
Specialist in Community Medicine (Epidemiology) (located in Public Health Laboratory, Cardiff)	Dr. S.R. Palmer
Consultant Microbiologist	Dr. A.D. Pearson

There are four senior registrar posts at CDSC. At 1st July, 1986 three were filled, Dr. N.T. Begg, Dr. J.M. Cowden, Dr. G.A. Eltam and one was advertised.

This application proposes an increase of two further posts.

Location

The present CDSC building was purpose built and opened in 1980. There is additional accommodation in the adjacent Central Public Health Laboratory (CPHL) which was opened in 1985. Excellent library facilities are provided by the PHLS Library in the CPHL which provides a wide range of journals on circulation to CDSC. A small library for immediate reference is located in the CDSC building itself.

The training programme

The training programme provides training and experience in the investigation and control of communicable disease and general community medicine and consists of six main elements -

- (i) Communicable disease epidemiology.
- (ii) Microbiology
- (iii) Clinical infectious disease
- (iv) General community medicine
- (v) An academic link
- (vi) Overseas attachment

The detailed programme will be designed according to the senior registrar's previous experience and special interests:

The following is a general description -

- (i) Communicable disease epidemiology

surveillance. The senior registrar will participate in the Centre's surveillance programmes of communicable disease and of vaccination and immunisation. He/she will be involved in providing information and advice to community physicians and others on communicable disease and will be expected to be day-time duty doctor to answer all incoming queries to CDSC on at least one day every other week. He/she will be expected to assist in the development of the Centre's information systems and will be allocated responsibility for a particular surveillance programme.

b) Field investigation. The senior registrar will take part in the investigation and control of communicable disease through hospital and public health laboratories, in support of medical officers for environmental health and other community physicians. This field experience will be mainly in England and Wales whilst based at CDSC Colindale, but if possible overseas experience will also be provided. It is expected that they will undertake at least 25 field investigations during training.

c) Surveys and research. The senior registrar will take part in special epidemiological surveys and research in the field of communicable disease as appropriate and according to his/her particular interests. It is expected that this will include at least one field study of vaccines or other prophylactic agents and involvement in at least one multi-centre research project.

He/she will be expected to develop special interests, in particular epidemiological problems which will be defined according to his/her particular interests and the activities of existing CDSC staff.

d) Teaching. The senior registrar will take part in all the teaching and training activities of CDSC. These include -

1. In-service training for community physicians. CDSC organises with the Department of Community Medicine of St. Mary's Hospital Medical School (Professor D.L. Miller) a workshop on environmental health; the Centre provides, when requested, short symposia on communicable disease epidemiology and contributions to meetings and courses.
2. CDSC provides a course of 'acute community medicine' for the MSc (Community Medicine) students of the Department of Community Health, London School of Hygiene and Tropical Medicine, and a course on infectious disease for the Thames Consortium.
3. CDSC participates in undergraduate teaching programmes in community medicine.

(ii)

Microbiology.

Training and experience in microbiology will be gained during field epidemiological investigations but additionally, an

attachment to a public health and/or hospital laboratory for a short period early in the training programme will be arranged. This will include experience of hospital infection control. A continuing attachment could be arranged if this was necessary to meet a particular senior registrar's interests. This part of the training will be under the supervision of a consultant microbiologist.

(iii) Clinical infectious disease.

A part-time or full-time attachment will be arranged to an infectious disease unit or other appropriate clinical unit for a continuous period of several months. This training will be under the supervision of the consultant physician concerned.

(iv) General community medicine.

The senior registrar will spend at least nine months working in general community medicine. He/she will gain experience particularly in district work of the specialty and will take part in all the activities of district based community physicians, including being on the duty rota for environmental health emergencies. This will be under the supervision of a community physician and part of a recognised training programme in a district or in a region.

(v) An academic link.

Arrangements will be made for an honorary lecturer position within an appropriate academic Department of Community Medicine. The senior registrar will be encouraged to make use of the facilities of the Department and to take part in its activities, including undergraduate teaching.

(vi) Overseas attachment.

Where possible, an attachment to a national unit concerned with communicable disease control overseas, will be arranged. The senior registrar will be expected to acquire a detailed knowledge of the health services of the country and to develop on-going links between that country and CUSC. The senior registrar will be encouraged to attend a French course and to learn, where appropriate, the language of the country of the attachment.

June 1986
66/20

APPENDIX 8

Courses Provided by CDSC and Lectures given by CDSC Staff 1986

TEACHING - CDSC 1986COURSES ON COMMUNICABLE DISEASE, EPIDEMIOLOGY AND CONTROL ORGANISED BY CDSCLECTURES GIVEN BY CDSC STAFF

<u>Organisation / Course</u>	<u>Date</u>	<u>DATE</u>
St. Mary's Hospital Medical School (undergraduates)		
British Council Course (Prof. Lambert), CDSC. The child and infection: recognition management and prevention	17.1	23.1
MSSVD	31.1	12.6
London Chief EHO's Association	23.1	2.7
British Veterinary Association	5.2	3.7
BACP AIDS Conference	6.2	16.10
LSHTM students, CDSC MSc Microbiology	20.2	21.11
Royal Institute of Public Health and Hygiene	19.3	
LSHTM (Annual) MSc in Community Medicine	13.3	8.1
MSc Occupational Health Course,	20.3	17.1
Environmental Health Officers	12.6	23.1
Seminar on food poisoning	5.6	5.2
Dr. Grants' CP Trainees	11.6	20.2
St. Mary's Diploma in Nursing Students,	3.7	27.2
Royal College of Nursing, Birmingham	8.7	6.3
Short Attachment Senior Registrars Induction Course	1-3.10	18.3
Food Industry Medical Officers	7.10	20.3
Royal Institute of Public Health and Hygiene	23.10	16.4
Annual Workshop run in collaboration with St. Mary's Hospital Medical School	14-17.10	
Community Medicine Trainees	21.11	28-29.4
Foundation Course in Infection Control Nursing	4.12	14.5
		19-23.5
		4.6
		5.6

BARNISTER B

Lassa fever, Chief EHOs, CDSC

Lassa fever, EHOs, CDSC

MNSA, Norwich Hospital.

Control of hospital infection and MNSA, St. Mary's

Methicillin-resistant staphylococcus aureus, Workshop on environmental hazards, CPHL

The work of the Infectious Disease Unit, Community Medicine Trainees, CDSC

BARTLETT C L R

St. Bartholomew's Hospital Medical College - Lectures to undergraduates throughout the academic year.

Legionella infection: sources and modes of transmission, Society of Applied Bacteriology

Legionnaires' disease - an update, Community Medicine Environmental Health Group

Legionnaires' disease, Chief EHO's, CDSC

Outbreak of yersiniosis, BVA, CDSC

Legionnaires disease, MSc, LSHTM

Manchester Medical Society, Problems of Legionella control

Grand Round on Legionnaires' disease, LSHTM

Community Paediatrics course, Addenbrooke's Hospital

Legionnaires' disease, MSc Occupational Health Course,

Royal Society of Health Legionnaires' disease Conference.

European Working Group, Stockholm

Plan of action in case of community outbreak.

The need for an international reporting system

PHLS Collaborative study on legionnaires' disease in England and Wales

Legionnaires' disease and Building Services, Nelson Malden Lecture Theatre

Several lectures on the surveillance, investigation and control of nosocomial infection. Caribbean Epidemiology Centre Workshop on hospital acquired infection, Trinidad, West Indies

An outbreak of rotavirus infection, London Virus Group

Investigation of an outbreak: General principles, Food poisoning Seminar CPHL

Problems to health associated with spas and whirlpools, Beaconsfield	11.6	Epidemiology of milkborne disease in the UK, BSc - Ecology and epidemiology of parasites course, Rogate Field Station	20.9
Outbreaks of legionnaires' disease, EHOs, CDSC	12.6	Imported parasitic diseases in the UK. BSc - Ecology and epidemiology of parasites course, Kings College	20.9
Legionnaires' disease, Scientific Meeting, Portsmouth PHL	17.6	Cryptosporidiosis, The Central Zoonoses Group, MAFF Tolworth	28.10
Control of legionnaires' disease and other infections associated with building services, Scientific Symposium, London	18.6	Imported human infections, BSc - Parasite Ecology and Epidemiology course, Imperial College London	27.11
Nosocomial infection in the Caribbean, CPHL	27.6	Human disease associated with milk and milk products, Milk and milk products seminar, Royal Devon and Exeter Hospital	28.11
Role of CDSC. Legionnaires' disease, CDSC, Diploma in Nursing Students, St. Mary's	3.7	<u>BEGG M T</u>	
Institute of Safety Officers Symposium, Guildford	17.7	Guy's Hospital, Medical students. Information systems	23.1
Department of Environment and Preventive Medicine. Community Medicine Course, Barts Hospital.	JUNE/JULY, SEPT	St. George's Hospital, Communicable Disease Unit Seminar <u>S. ealing</u>	19.2
Nosocomial infections from gram negative bacteria, XIV International Congress of Microbiology, Manchester	7-13.9	London School of Hygiene, MSc Course in Community Medicine. Immunisation uptake	27.2
Outbreak investigations, Infection Control Nurses Association Annual Symposium, Blackpool.	16.9	Tooting PHL, talk to MLSO's. Basic Epidemiology	24.3
Caribbean nosocomial infection control project, Infection Control Nurses Association Annual Symposium, Blackpool	19.9	CDC Atlanta, Division of Immunisation, Investigation of a cluster of AIDS deaths	3.6
Legionnaires' disease, the Air Conditioning Industry response, Cavendish Conference Centre.	30.9	CDC Atlanta, Division of Immunisation, Cost benefit analysis of immunisation	12.8
Outbreak investigations, CDSC	2.10	PHLS Annual Conference, <u>Salmonella ealing</u>	16.9
Legionnaires disease - epidemiological review, Workshop on environmental hazards, CPHL	14.10	PHLS Annual Conference, Waterborne giardia outbreak	17.9
Epidemiological quiz, Workshop on environmental hazards, CPHL	16.10	Polio in Finland, Workshop on environmental Health, CPHL	15.10
The epidemiology of legionnaires' disease, Gloucester Postgraduate Centre	11.11	<u>Salmonella ealing</u> , Workshop on environmental Health, CPHL	16.10
The epidemiology and control of legionnaires' disease and related infections, National Health Service Training Authority, Fairfield	13.11	St. George's Hospital Communicable Disease Unit Seminar. Attempts to eradicate measles.	22.10
Outbreak investigation, Community Medicine Trainees, CDSC	21.11	Outbreaks: <u>Salmonella ealing</u> RIPH, CDSC	23.10
Control of legionella infections, National Study Day Infection Control, Northwick Park Hospital	27.11	Community Medicine Trainees, CDSC	21.11
Introduction to epidemiology, EMB Course 329 - Foundation Course in Infection Control Nursing, CPHL	1.12	Study Group, CPHL, Measles uptake by Districts	18.11
<u>BARRETT M J</u>		St. Barts Hospital Medical Students. Surveillance and outbreak investigation.	28.11
Specific problems in control: milk, MSC - Acute Community Medicine Course	13.3	<u>BELL J C</u>	
Incidence and epidemiology of human infection, Workshop on Cryptosporidium and cryptosporidiosis, Wellcome Trust, London	11.4	Control of salmonella on the farm - can it be done?, RSH	21.4
Current health hazards of milk, Eleventh Annual PHLS Scientific Conference, King Alfred's College, Winchester	16.9	Zoonoses in Britain, Royal Veterinary College, London	21.5
		Control of salmonellosis - the producer. Association of Meat Inspectors Annual Seminar	20.9

Zoonoses important to mothers and children, Hospitals for sick children	18.11	Surveillance of sexually transmitted diseases, Venereologists visit	31.1
Foodborne and occupational zoonoses, North East Veterinary Association, Newcastle upon Tyne	26.11	Surveillance of Zoonoses, BVA, CDSC	5.2
Enzootic abortion of ewes, Devon and Cornwall Zoonoses Liaison Group	1.12	Changes in infection, Royal Free Hospital	11.2
Swine influenza, Devon and Cornwall Zoonoses Liaison Group	1.12	The role of CDSC, RIPPH, CDSC	19.3
Salmonella and the milk manufacturing industry, Reading Zoonoses Liaison Group	4.12	Surveillance of occupational infections, MSc Occupational Med, CDSC	20.3
<u>CAYGILL C</u>		AIDS UK, WHO meeting, Graz, Austria	8.4
Nitrates in water, Symposium on Water Related Problems, Community Medicine Environmental Health Group	17.1	Field investigation of infectious disease, British Council Course, University of Southampton.	26.5
<u>CONDEN J M</u>		"Wither the Public Health", Food poisoning Seminar for Community physicians, CPHL	5.6
Diphtheria in St. Albans, Acute Medicine Module of LSHTM MSc course	March	CDSC and Surveillance, GP's	11.6
Investigation of an outbreak of infectious disease, Bart's graduates	1.8	CDSC and Surveillance, EHO's	12.6
Diphtheria in St. Albans, Workshop on environmental hazards	17.10	Future of Public Health, NW Thames RHA	16.9
Investigation of a person to person and point source outbreaks, UCH Middlesex undergraduates	20.10	CDSC and Surveillance, RIPPH, Community Physicians visiting CDSC	23.10
Typhoid and paratyphoid fevers, Southgate Technical College	29.10	Foodborne disease, Society of Community Physicians, London	14.11
Diphtheria in St. Albans, DHI Seminar, CPHL	7.11	Community Medicine Trainees, CDSC	21.11
<u>ELLAM G A</u>		Changes in Infection, CPHL staff	28.11
AIDS, Chief EHOs, CDSC	23.1	Role of CDSC, Nurses visiting CDSC	4.12
Aspects of Virology of importance to the Community Physician, British Association of Community Physicians	6.2	<u>GILL O M</u>	
AIDS in children, BPA Annual Meeting York	16.4	Hospital salmonella outbreaks, Queen Elizabeth Hosp. Hackney	14.1
AIDS, EHOs, CDSC	12.6	Half day teaching at UCH, Middlesex Medical School	16.1
Behavioural aspects in healthy homosexuals of HIV seroconversion, International Conference on AIDS	23.6	Epidemics I have known, GP's from Southend	25.1
AIDS, St. Mary's	3.7	Diphtheria control, NET Community Medicine Trainees	29.1
Putting AIDS into focus, North East Essex Health Authority	9.9	District Response, AIDS conference, CPHL	6.2
AIDS Symposium, North Manchester Postgraduate Centre	10.10	Half day teaching at UCH, Middlesex Medical School	21.2
AIDS - Development of local services, Camberwell Health Authority	20.10	Half day teaching at LSHTM	24.2
<u>GALBRAITH M S</u>		Half day teaching at LSHTM	25.2
CDSC and Surveillance, LSHTM	16.1	TB contact tracing, NET Community trainees	26.2
The role of CDSC, British Council Course on Infectious disease	17.1	Postgraduate Medical Course, Whittington Hospital	6.3
AIDS, British Council Course on Infectious disease	17.1	Half day teaching at LSHTM	11.3
CDSC and surveillance of foodborne disease, Chief EHOs	23.1	Vaccination and Immunisation, UCH Medical School	12.3
		Communicable Disease in Britain today, RIPPH	18.3

Leptospirosis, MSc Occupational Health Course, CDSC	20.3	Congenital toxoplasmosis. Faculty of Community Medicine Conference, Cardiff	4.7
Secondary communicable disease control, Postgraduate Med. Course, Whittington H.	15.4	The role of routine data on infection in studying the aetiology of AIDS - meeting on the possible role of infection in AIDS, Peterhouse, Cambridge	22-29.5
Secondary communicable disease control, Postgraduate Med. Course, Whittington H.	1.5	CDSC, Paediatric Surveillance	1.10
Epidemiology on AIDS, Whittington Hospital	8.5	Update on immunisation, GP course, Institute of Child Health	6.10
Case-control studies, London Hospital. Postgraduate Microbiology Course	22.5	Patterns of infection in childhood, Booth Hall, Manchester.	7.10
CRS & Rubella vaccination in the UK today, NET - SENSE Rubella study day	1.7	Reye's syndrome and inborn errors of metabolism, Workshop, ICH	10.10
A continuing common-source outbreak of <u>S. montevideo</u> in a general hospital, Hospital Infection Society, Dublin	3.7	ICH Paediatricians course. Patterns of infection in childhood, Paediatric Surveillance Unit, Congenital toxoplasmosis.	23-4.10
Half day teaching, UCH Middx Medical School	3.9	Was it an outbreak? CDSC	21.11
Preparation for on-call duties, CMOs, Enfield	8.9	Preschool vision screening - is it worthwhile?, Consultants update course, ICH	22.11
Measles vaccination, GPs, Harlow	12.9	Reye's Syndrome risk factor study. Annual meeting of Reye's Syndrome Foundation, Fishmongers Hall, London	26.11
Half day teaching, UCH Middlesex Medical School	15.9	Advances in Immunisation - Course for Community Paediatricians, Queen Elizabeth Hospital, Hackney	19.12
Immunisation policy, Occupational Health Physicians, Whittington Hospital	17.9	<u>McCONNICK A G</u>	
Half day teaching, UCH Middlesex Medical School	3.10	Sources of data for communicable disease surveillance, RCGP	26.2
BCG - Time for change? Workshop on environmental hazards	15.10	Recent outbreaks. St. George's Hospital Medical School	25.3
Secondary communicable disease control, RIPHH	21.10	Developments in food poisoning surveillance systems in England and Wales. 2nd World Congress, Berlin	22.5
Outbreak management, ICH	23.10	Surveillance of food poisoning and salmonellosis in England and Wales 1980-84. 2nd World Congress, Berlin	22.5
Communicable disease control - Investigation of outbreaks, Conference in Naples	4.11	Notifications. EHDs, CDSC	12.6
Immunisation developments, GP update course, Whittington	7.11	Sources of data, Coppetts Wood nurses at CDSC	12.8
<u>HALL S M</u>		French GP reporting system. CDSC	12.9
Paediatric Surveillance and Reye's Syndrome. British Council Course (Prof. Lambert), CDSC	17.1	The Ins and Outs of CDSC. Kings fund seminar	2.10
Princess Alexandra Childrens Hospital, Brighton Postgraduate evening seminar, Paediatric surveillance and Reye's Syndrome	20.1	Sources of data/confidentiality and the Data Protection Act/MOEH emergency pack. CDSC	3.10
RSH, Aspirin and Reyes Syndrome - Section of Community Medicine	5.2	Morbidity statistics from General Practice 1981-1982. Press conference, RCGP	15.10
LSHTM, Measles Immunisation (MSc Course)	6.3	The Census link and future studies. DHSS	25.11
Haemolytic Uraemic Syndrome study, BPA annual conference, York	16.4	<u>McEVoy M B</u>	
Reyes Syndrome Surveillance, BPA, York	27.4	AIDS surveillance, Blood Products Laboratory	9.1
Patterns of infection in childhood. Immunisation Conference at RCP	19.6	AIDS in UK, EEC Meeting, Paris	10.1
Reye's Syndrome Surveillance. International Conference of Paediatric Biochemistry, Bristol	1.7	AIDS surveillance, Paediatricians visit to CDSC	17.1
Reye's Syndrome Risk Factor Study - Symposium on R.S. and medications at the Royal Society.	3.7		

AIDS, FCM	21.1	AIDS epidemiology, Cambridge PHL	16.10
Infectious disease epidemiology, St. Mary's medical students	27.1	AIDS epidemiology, Darlington PGMEC	23.10
AIDS surveillance, MSSVD, CDSC	31.1	AIDS epidemiology, Department of Justice, Dublin	24.10
BACP AIDS Conference, CPHL	6.2	AIDS epidemiology, FCM, Edinburgh	30.10
AIDS epidemiology, MSSVD,	28.2	AIDS epidemiology, EEC Brussels	3.11
AIDS epidemiology, RSH	4.3	European meeting on AIDS, Berlin	12.11
AIDS epidemiology, Tower Hamlets Community Nursing Dept. St. Stephens Hosp.	20.3	AIDS, Community Medicine Trainees, CDSC	21.11
AIDS in health care workers, MSc Occupational Health Course, CDSC	20.3	<u>MILLER C</u>	
AIDS, EEC Working Group on AIDS, Brussels	2.4	Whooping cough and measles immunisation, Redbridge Clinic	22.1
AIDS epidemiology, Association of Clinical Pathologists, Lancaster	3.4	Rubella, Luton Study Day	22.2
AIDS meeting, FCM, Sheffield	7-8.4	Immunisation seminar for health visitors and nurses, Barkingside Children's clinic	27.2
AIDS epidemiology, Hackney Hospital	22.4	Clinical trials MSc Course, London Hospital	29.5
AIDS epidemiology, DHSS	23.4	Community Medicine, Measles. City of London Environmental Health Group	6.6
AIDS epidemiology, Burnley District Dept. Community Medicine	24.4	Scientific meeting to discuss Rubella vaccination. CPHL	12.6
AIDS epidemiology, Drug Dependency Unit, Liverpool	25.4	Whooping cough and measles. Barkingside children's clinic	8.10
AIDS epidemiology, Bethlem Hospital Drug Dependency Unit	8.5	Rubella - time for change?, Workshop on environmental hazards, CPHL	13.10
AIDS Infection Control Nurses, CDSC	14.5	Measles, Paediatric Training Course. ICH.	24.10
AIDS epidemiology, Sheffield GUM Department	15.5	Measles, Somerset Health Authority	5.11
AIDS Seminar, LSHTM	21.5	Study group to discuss measles uptake, CPHL	18.11
AIDS, Terrence Higgins Trust	26.5	Measles vaccine. Watford, MD's, GP's and health visitors	21.11
AIDS epidemiology, FCM, Dublin	28.5	Measles, University of Manchester	5.12
AIDS meeting, JPH	6.6	<u>MILLER E</u>	
AIDS epidemiology, ASAPA	11.6	Rubella and its prevention. International Nurses Day at Royal College of Nursing	12.5
Poster Presentation, International Conference on AIDS, Paris	25.6	Rubella vaccination policy. DHSS	28.5
AIDS UK, EEC, Paris	26.6	Rubella, City of London Environmental Health Group, Community Medicine	6.6
AIDS, St. Mary's	3.7	Safety of pertussis vaccine, Hillingdon HA	9.6
AIDS epidemiology, GUM Dept. St. Mary's	10.7	Vaccination and immunisation: current issues. GP Trainees, CDSC	11.6
AIDS epidemiology, MSc Students	15.7	Scientific basis of rubella vaccination strategy, CPHL	12.6
AIDS epidemiology, GUM Dept. St. Giles Hospital	27.8	Whooping cough vaccines. RCP	19.6
AIDS, BACP	25.9	Clinical trials in prospect in the UK. Workshop on acellular pertussis vaccines in Maryland, USA	23.9
AIDS epidemiology, Workshop on environmental hazards	13.10		

Immunoglobulins, CDSC	2.10	Monitoring Infections - surveillance for action. ICH	23.10
Pertussis component vaccines - British trials, Workshop on environmental hazards, CPHL	15.10	The Stroud epidemic. St. Thomas' Hospital	28.10
Immunisation update, RIPHH, CDSC	23.10	Measles vaccine, RIPHH	30.10
Vaccination and immunisation: current problems, CDSC	21.11	Principles and applications in infectious disease, Manchester	31.10
<u>NOAH N D</u>		Lecture to virologists, Paddington College	3.11
Acute Community Medicine, LSHTM		Surveillance, Community Medicine Trainees, CDSC	21.11
Royal Free Hospital		Surveillance, LSHTM	27.11
Surveillance; investigation of an outbreak. Seminars on Infectious Disease Epidemiology course, LSHTM.	7-14.1	Outbreak investigation, LSHTM, Occupational Health Course	10.12
Investigation of an outbreak, Institution of EHOs, Liverpool	19.2	Seminar on current problems, RIPHH	15-16.12
Stroud Meningitis, DHSS	26.2	<u>PALMER S R</u>	
The Principles and Values in Community Paediatrics; Vaccines. Cambridge Regional Paediatrics Course	4-11.3	BSc (honours) degree course in environmental health, South Glamorgan Institute for Higher Education.	6.13.20.1
Immunisation strategies, RIPHH, CDSC	19.3	Joint veterinary/medical investigations, BVA, CDSC	5.2
Lecture to bacteriologists, Paddington College	20.3	MSc Virology course. University Hospital of Wales, Cardiff	24.2
Lecture to Students from Leicester	8.4	Post Graduate Course in Chest Medicine, UHM, Cardiff	28.2
Neurological side effects of polio vaccine. RSM	10.4	Investigation of an outbreak II: Salmonellosis in a hospital, Seminar on food poisoning, CPHL	5.6
Value of epidemiology, Microbiology seminar, Oxford PHL	6.5	Infection control, Royal college of Nursing, Birmingham	18.6
Uses of epidemiology in management of environmental health problems - surveillance communicable disease, NHS Training Centre, Harrogate	12.5	Salmonella infections in neonatal units, FCM MFG. Cardiff	4.7
Food poisoning: general principles, Seminar on Food poisoning, CDSC	5.6	Risk of transmission of AIDS in hospitals, Paramedical staff Werthyr	7.10
Epidemiology of pertussis and measles. Hillingdon HA, Immunisation Seminar	9.6	New G 1 infections, Workshop on environmental hazards	16.10
The investigation of an outbreak, GP trainees, CDSC	11.6	Community health care in developing countries - MSc Course, UHM, Cardiff	17&24.10
Vaccination and immunisation: current issues, GP trainees, CDSC	11.6	Hydatid disease - DHSS epidemiology meeting	22.10
Hepatitis, St. John's Hospital, Hackney	25.6	AIDS: Past and future trends, Institute of EHOs, Swansea	29.10
Hospital Infection Nurses, CDSC	3.7	Recent Welsh epidemics, Society of Physicians in Wales, Cardiff	31.10
Outbreaks, LSHTM	10.9	Zoonoses, old and new. N. Wales Zoonoses Liaison Group, Rhyl	7.11
PHLS Scientific Conference, Winchester	16.9	British Postgraduate Medical Federation Course - Advanced course in Pathology, Colindale	10.11
Talk to Jewish Womens Guild	6.10	Abolition of Crown Immunity, RSPHH, London	12.11
Immunisation and the traveller. Food Industry Medical Officers, Colindale	7.10	Cryptosporidiosis, SCM, London	14.11
Post operative tetanus, Workshop on environmental hazards	17.10	Epidemic Infections in Wales, Postgraduate meeting, Carmarthen	27.11
		Zoonoses: Public Health Matters - Zoological Society, Institute of Zoology, London	2.12

G.P. surveillance, sixth Welsh Conference on Performance review in General Practice, Llandrindod Wells

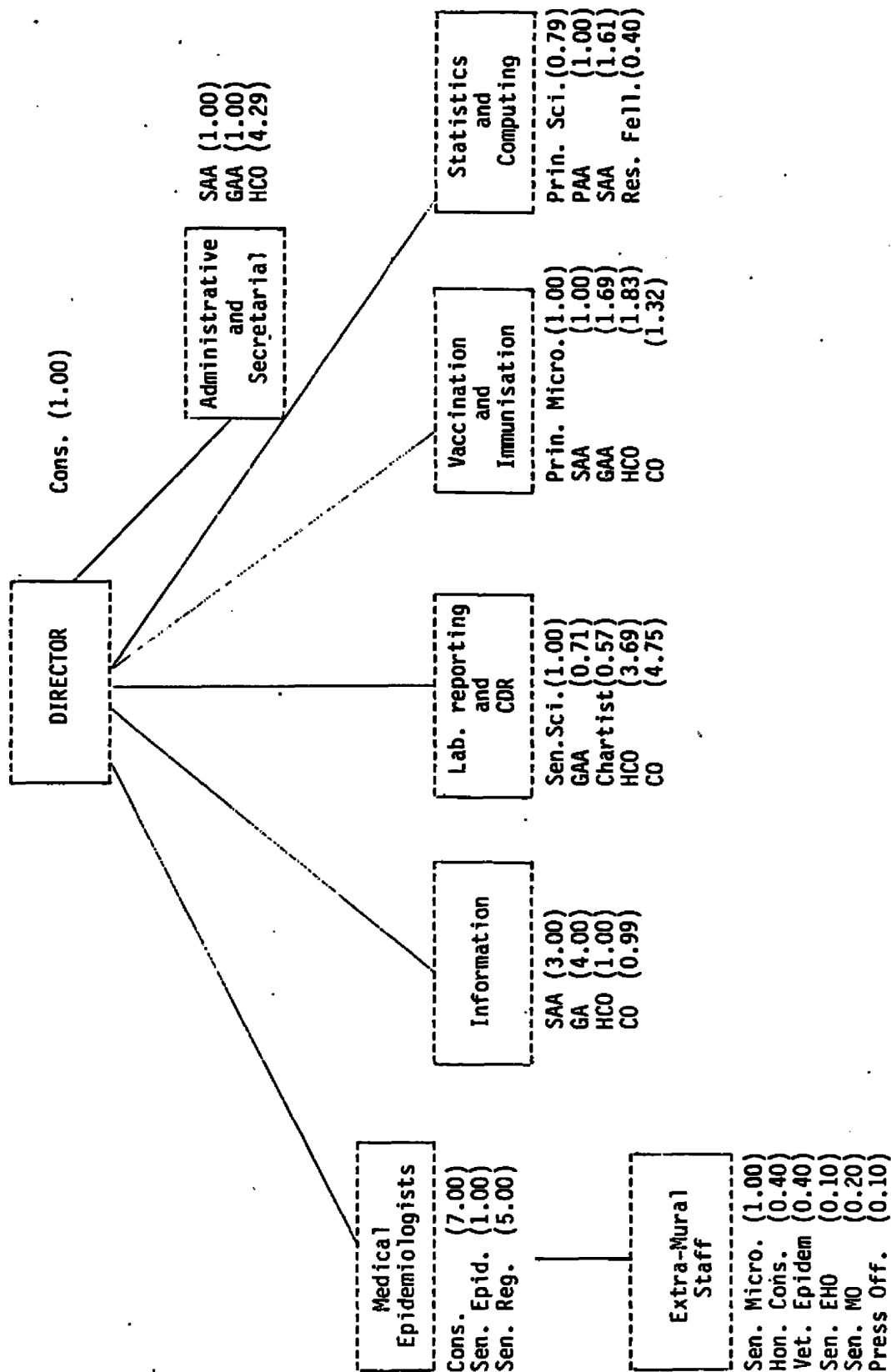
PEARSON A D

- Campylobacter in the Intestinal tract, Advanced Medicine Course at the Royal College of Physicians
- Outbreak investigation - role of CDSC, St. Bartholomews Hospital London
- The Stafford outbreak of Legionnaires' disease - epidemiology, microbiology and engineering review. University of Maryland, USA
- Role of non-culturable bacteria in the survival and epidemicity of outbreaks associated with environmental micro-organisms. University of Maryland, USA
- Sources, colonisation and amplification of legionella in cooling towers and water heaters, Symposium given to the 86 annual meeting of the American Society of Microbiology, Washington, USA
- Evidence for the transmission of campylobacter from chicken to man. Centers for Disease Control, USA
- Clinical significance of campylobacter pyloridis in gastritis and peptic ulcer, Post Graduate Medical Centre, St. Helier, Carislington, Surrey
- Design of an intervention programme to prevent colonisation of broiler chicken. UK and US Campylobacter Study Group
- Campylobacter pyloridis: Clinical significance and evidence for pathogenicity in GI Tract disease. Norwich Eaton Pharmaceutical Corporation, New York
- Campylobacter pyloridis and gastric campylobacter like organisms: Clinical significance and evidence for pathogenicity, Infectious Disease Society for America
- Sick Building Syndrome - The scope of the problem. Lecture to hospital and commercial engineers, medical staff and infection control staff
- Design and results of 3 intervention studies in the UK, LSHTM
- Preliminary results of the Intervention Study in the Poole Campylobacter Outbreak
- SOCKETT P M
- The Communicable Disease Report, Chief EHOs, CDSC
- Salmonellosis, BVA, CDSC
- Food poisoning and economics, LSHTM
- Fish and shellfish poisoning, LSHTM, MSc, CDSC
- The Communicable Disease Report, RIPHH, CDSC
- The financial implications of a food poisoning outbreak, Society of Food Hygiene Technology Symposium, Birmingham
- Surveillance of Salmonella typhimurium phage types: England and Wales 1982 -1984. 2nd World Congress Foodborne Infections and Intoxications, Berlin

- Costs analysis of use of health-care services by sporadic cases and family outbreaks of Salmonella typhimurium and campylobacter infection. 2nd World Congress Foodborne Infections and Intoxications, Berlin
- Cost implications of foodborne outbreaks, Seminar on food poisoning, CDSC
- Communicable Disease Report, EHOs, CDSC
- Foodborne viral gastroenteritis - an overview, Joint EHO/Laboratory meeting, Reading PHL
- Salmonella eating for infant feed: the costs of the outbreak, PHLS Annual Conference, Manchester
- Counting the cost. Food poisoning - problems and preventive procedures, Symposium at Leatherhead Food RA.
- Investigating an outbreak of food poisoning. University of Bath
- Viruses in water : a cause for concern? WRC 1 day Seminar
- Cost implications of food poisoning. 1 day seminar, British Airways Heathrow.
- Shellfish - delicacy and danger, London Virus Group Meeting, CDSC
- The Communicable Disease Surveillance Centre and the Communicable Disease Report, NW Thames Regional Library and Information Service, CPHL
- STANWELL-SMITH B
- Waterborne disease, Community Medicine Environmental Health Group, Aldgate, London
- Sick building syndrome, Chief EHOs, CDSC
- Stafford Outbreak, London Hospital (Microbiology Conference)
- Stafford Outbreak, CDSC
- A current outbreak investigation, RIPHH, CDSC
- Outbreak Investigation, Bristol Medical Students
- Waterborne disease, Institution of Environmental Health
- Lecture to Shipping Officers, Barry
- Sick Building Syndrome, Air Pollution Standing Conference, (Dept. of Trade and Industry) Doncaster
- Salmonellosis and Dried Milk, SW Regional Microbiology Meeting
- Stafford outbreak, International Congress on Infectious and parasitic diseases, Munich
- Stafford Outbreak, PHLS Annual Conference in Winchester
- Birmingham study, PHLS Standing Conference on Foodborne disease
- Stafford outbreak, International Conference on Water/Airborne disease, Berlin

Waterborne Infection, Workshop on environmental hazards	16.10
Viruses in Water: A cause for concern?, WRC Environmental Seminar, Bucks	23.10
Sick Building Syndrome, Conference on Related Illnesses	6.11
<u>WATSON J</u>	
Honorary Lecturer in Community health, LSHTM	Weekly
<u>YOUNG S E J</u>	
MSc Microbiology, LSHTM students, CDSC.	20.2
Endocarditis, RCP	29.4
Bacteraemia, St. Marys	3.7
Bacterial Meningitis, Community Medicine Trainees, CDSC	21.11

Organisation and Staff CDSC - December 1986

COMMUNICABLE DISEASE SURVEILLANCE CENTREORGANISATION AND STAFFING CHART 1986

Figures in parentheses are full-time equivalents in post at 31st December 1986

COMMUNICABLE DISEASE SURVEILLANCE CENTRE STAFF

DECEMBER 1986

SENIOR MEDICAL STAFF

	<u>WTE</u>	<u>POST AND MAIN FUNCTIONS</u>
Dr N S Galbraith	1.00	Director, BMJ, Digest and Community Medicine articles
Dr Susan E J Young	1.00	Deputy Director, Editor, Communicable Disease Report (CDR). Bacterial disease surveillance
Dr C L R Bartlett	1.00	Consultant Epidemiologist, field services, Legionella surveillance
Dr Susan M Hall	0.50	Consultant Epidemiologist, paediatric surveillance (Joint with Department of Epidemiology, Institute of Child Health)
Dr Anna McCormick	0.50	Consultant Epidemiologist, information systems (Joint with the Office of Population Censuses & Surveys)
Dr Marion B McEvoy	1.00	Consultant Epidemiologist, acquired immune deficiency syndrome surveillance
Dr Christine L Miller	1.00	Senior Epidemiologist, Immunisation and vaccination (0.45 externally funded)
Dr N D Hoah	1.00	Consultant Epidemiologist, Editor, CDR 'Inserts' Viral disease surveillance
Dr S R Palmer	1.00	Consultant Epidemiologist, Wales (located in Public Health Laboratory, Cardiff). Zoonoses surveillance.
Dr A D Pearson	1.00	Consultant Medical Microbiologist seconded on epidemiology course to April 1987 (externally-funded, DHSS, AIDS)

Total establishment: 9 whole-time equivalents (WTE)
Total in post: 9 WTE

SENIOR REGISTRARS IN TRAINING

	<u>WTE</u>	<u>Date appointed and special interest</u>
Dr M T Begg	1.00	Oct. 84 Surveillance of vaccination programmes
Dr J M Cowden	1.00	Nov. 85 Gastro-Intestinal Infections
Dr G A Eilam	1.00	Nov. 85 AIDS (externally-funded, DHSS, AIDS)
Dr G Morasca	1.00	Sept. 86 Lyme disease. AIDS
Dr J M Watson	1.00	Oct. 86 Respiratory infections
Total establishment:	5	
Total in post:	5	

EXTRA-MURAL STAFF

<u>MTE</u>	<u>Post</u>	<u>Main functions</u>
0.2	Dr Barbara A Bannister Consultant physician. North East Thames RHA	AIDS, MRSA, VHF
periodic	Dr P J Baxter Occupational Health Physician, University of Cambridge	Infections of Occupations
periodic	Dr M H Bellman Community Paediatrician, Bloomsbury Health Authority	Reye's Syndrome
0.1	Dr O H Gill Consultant Epidemiologist North East Thames RHA	Tuberculosis & BCG Vaccine
periodic	Professor O L Miller Professor of Community Medicine, St Mary's Hospital Medical School	Whooping Cough
periodic	Professor Catherine S Peckham Professor of Epidemiology Institute of Child Health London WC1	Congenital Infections
1.00	Dr Christine Caygill Senior Microbiologist Attached from PHLS Bacterial Metabolism Research Laboratory, CMR, Porton	Bacteria in the causation of cancer
0.4	Mr J C Bell Veterinary Epidemiologist MAFF, Tolworth	Zoonoses
0.1	Mr M Jacob Senior Environmental Health Officer, DHSS	Advice on environmental health
0.2	Senior Medical Officer Communicable Disease Division, DHSS	Coordination & advice on DHSS policy matters
0.05	Press Officer Press Office, DHSS	Advice on Press matters

OTHER EXTRA-MURAL STAFF

INFORMATION SECTION

<u>MTE</u>	<u>NAME</u>	<u>GRADE</u>	
1.00	Mrs Carol A Joseph	SAA	Information Officer
1.00	Dr Nicola J Barrett	SAA	Research Assistant to the Director/ Information Assistant (zoonoses & parasitic diseases)
1.00	Miss Joanne M White	SAA	Information Assistant (0.75 externally-funded (vaccinatable diseases)
1.00	Miss Philippa C Hancock	GAA	Information Assistant (externally-funded) (paediatric diseases)
0.99	Miss Ethel M Hostler	HCO	Information Assistant (externally-funded, DHSS, AIDS)
0.67	Mrs Susan A LeBlaigue	GAA	Information Assistant (food poisoning & enteric diseases)
1.00	Mrs Kholoud Porter	GAA	Information/Statistical (externally-funded Assistant (AIDS & STDs) DHSS, AIDS)
1.00	Miss Amanda M Willis	GAA	Information Assistant (Legionnaires' Disease)
1.00	Vacant posts as at 31/12/86	GAA	Information Assistant (externally funded)
0.33		GAA	Information Assistant
0.56		CO	"
1.00		CO	"
0.50		CO	"
Total establishment:	11.05	whole-time equivalents (MTE)	
Total in post:	7.66	MTE	

LABORATORY REPORTING AND CDR SECTION

	<u>MTE</u>	<u>GRADE</u>	
Mr P N Sockett	1.00	SEN.SCI.	Technical Editor
Mrs Iris Cusworth	0.71	GAA	Production Assistant
Miss Penny Forsyth	0.57	MED. ARTIST	Chartist
Mr B Ward	1.00	HCO	Statistical Assistant
Mrs Sheila Dobin	0.69	HCO	WP Operator
Miss Sheila Bird	1.00	HCO	WP Operator
Mrs Rosa Ghosh	0.56	CO	Coding clerk
Mrs Audrey Bula	1.00	CO	Coding clerk
Mrs Satkumadevey Sivasubramanian	1.00	CO	Coding clerk
Mrs Margaret Pipe	1.00	HCO	DP Supervisor
Mrs Violet Bowman	0.56	CO	DP clerk
Mrs Alice Creary	0.56	CO	DP clerk
Mrs Joyce Dooley	0.56	CO	DP clerk
Mrs Margaret Honour	0.17	CO	Despatch clerk
Mrs Jean Sparks	0.17	CO	Despatch clerk
Mrs Marilyn Bookbinder	0.17	CO	Despatch clerk
Total establishment:	10.72		whole-time equivalents (MTE)
Total in post :	10.72		MTE

VACCINATION AND IMMUNISATION SECTION

	<u>MTE</u>	<u>GRADE</u>	
Dr Elizabeth Miller	1.00	PRIN.MICRO	Epidemiologist
Mrs Pauline A Kaye	1.00	SAA	Microcomputer analyst (externally-funded)
Mrs Kathleen A Rowe	0.69	GAA	Administrative Assistant (externally-funded)
Mrs Winifred M Hopkinson	1.00	GAA	Immunoglobulin Officer
Mrs Shirley J Hobday	0.69	CO	Immunoglobulin Assistant
Mrs Joan E Vurdien	1.00	HCO	Assistant to Dr Miller
Mrs Edna M Burns	0.83	HCO	Clerical Assistant/Assistant to Dr Caygill
Mrs Doreen Hoffatt	0.63	CO	Clerical Assistant
Total establishment:	6.84		whole time equivalents (MTE)
Total in post:	6.84		MTE

ADMINISTRATIVE AND SECRETARIAL SECTION

	MTE	GRADE	
Mr A Collins	1.00	SAA	Centre Administrator
Mrs Maureen H Cable	1.00	GAA	Sec. to Director/Deputy Administrator
Miss Nina M Burghiner	1.00	HCO	Senior secretary
Mrs. Vivienne Fitch	0.54	HCO	" "
Mrs. Margaret A Kesse	0.42	HCO	" "
Mrs. Eileen B Law	0.33	HCO	" "
Mrs. Coral Owers	1.00	HCO	" "
Miss Saroj Valambia	1.00	HCO	" "
(Miss Margaret Watts	0.75	HCO	" " externally-funded temp.)
Vacant	1.00	HCO	" "
Vacant	1.00	HCO	" "
Vacant	0.50	HCO	" "
Vacant	1.00	PS	Secretary/Receptionist

Total establishment: 9.79 whole-time equivalents (MTE)

Total in post: 7.04 MTE

STATISTICS AND COMPUTING SECTION

	MTE	GRADE	
Dr Hilary E Tilllett	0.79	PRIN. SCI.	Head Statistician
Mrs Janet Mortimer	0.61	SAA	Statistician
Mrs Jacqueline Clarkson	0.40	Research Fellow 1A	Statistician (based at LSH & TM)
Dr Godfrey L Manning	1.00	PAA	Computer Scientist
Mr Toby M Milstein	1.00	SAA	Statistician (externally funded)
Mr Andrew M Stephens	0.99	CO	Sandwich student in statistics
Vacant	1.00	Basic grade scientist	Statistician

Total establishment: 5.79 whole-time equivalents (MTE)

Total in post: 4.79 MTE

APPENDIX 10

Committee Membership of Staff 1986

CDC STAFF COMMITTEE MEMBERSHIP 1986BANNISTER B

PHLS Working Party on Notification of Infectious Diseases

BARTLETT C L R

PHLS Committee on Legionnaires' disease (Secretary)

PHLS Legionella Co-ordination Group - Central Reference Laboratories (Chairman)

PHLS Standing Committee on the Microbiology of Water

PHLS Advisory Group on Private Practice

PHLS Informal Working Group on Hospital Infection.

PHLS Working Party on Training Needs
Working Group on Training of Medically Qualified Staff
Working Group on Training of Scientific and Technical Staff

DHSS Code of Practice Working Party

DHSS Committee on Aspects and Use of Biocides

Department of the Environment/Public Health Laboratory Service Panel SCA
7.3 on Microbial TracersDepartment of the Environment/Public Health Laboratory Service Panel SCA
7.3 Full PanelDepartment of the Environment/Public Health Laboratory Service Panel SCA
7.3 on Microbiological examination of Sea, Estuarine and Fresh
Recreational WatersTask Group of the Chartered Institute of Building Services Engineering
Practices Committee

British Thoracic Society Research Sub-Committee on Pneumonia

European Working Group on Legionella Infections

Executive Committee, International Symposium on the Control of Hospital
Infections, Rome, Italy (World Health Organisation; Istituto Superiore di
Sanita, Consiglio Nazionale delle Ricerche d'Italia)BEGG M T

24 Group, Community Medicine

British Association of Community Physicians, Community Medicine

Whooping Cough Sub-committee, Medical Research Council

CAYGILL C

ECP Diet and Cancer Group

ECP Salt and Gastric Cancer Group

COMDEN J C

PHLS Working Group on Campylobacter Infections

GALBRAITH M S

PHLS Board

PHLS Management Group

PHLS Directors Meeting

PHLS AIDS Action Co-ordinating Committee

PHLS Standing Advisory Committee on Influenza

PHLS Committee on Salmonellas

PHLS/WAFF/DHSS Zoonoses Group

PHLS Epidemiology Briefing meeting

BPA British Paediatric Surveillance Unit Steering Committee

DHSS Epidemiology Committee
EAGASub-Committee of AIDS and occupation
Acheson Inquiry Sub-Committee on Infectious DiseaseJCVI Main Committee
Influenza Sub-CommitteeMRC AIDS
AIDS Epidemiology
Whooping CoughFaculty of Community Medicine Board
AIDS Committee
Environmental Health Group Council

RSM Council, Section of Epidemiology and Community Medicine

RCP Infectious Diseases Committee

BSSI English, Scottish and UK Councils

GILL O MNorth East Thames Regional Working Party on Methicillin Resistant
Staphylococcus aureus

North East Thames Regional Working Party on HIV Infection

North East Thames Regional Working Party Infectious disease bed provision

HALL S M

PHLS 5th Disease Working Party

BPA/JCVI Liaison Group

McCORMICK A

PHLS Computer Services Steering Group
 PHLS Regional Specialists in Community Medicine
 Notification of Infectious Diseases Topic Working Group
 Morbidity Statistics from General Practice 3 (MSGP-3) Working Party

MSGP-3 Management GroupMSGP-4 Working GroupMcEVY M B

PHLS AIDS Action Co-ordinating Committee
 Council of Europe Committee on AIDS
 European Economic Community (EEC) AIDS Working Group
 EEC Project Management group. Aids epidemiology

DISS AIDS Health Education Working Group

Terrence Higgins Trust, Director

UK AIDS Foundation Working Group

British association of Community Physicians

Faculty of Community Medicine Working Group on AIDS

Ad hoc attendances when instructed at :

DISS Expert Advisory Group on AIDS

MRC Working Group on AIDS Epidemiology

MILLER C

Joint Committee on Vaccination and Immunisation
 Committee on Development of Vaccines and Immunisation procedures
 Committee on Safety of Medicines

MILLER E

MRC Sub-Committee on Measles and Rubella
 MRC Sub-Committee on Whooping Cough Vaccines

MORAN M D

PHLS Library Policy Committee
 British Association of Community Physicians (Executive Council)
 DISS Committee for Hygienic Skin Piercing
 Faculty of Community Medicine Board of Examiners Part II

MSc Community Medicine Course Committee LSHTM

BSM - Editorial Board (Journal of the Royal Society of Medicine) - Council
 of Section of Epidemiology and Community Medicine.

S. E. Consortium Board

Shenley Hospital Control of Infection Committee

PALMER S B

PHLS Working Party on the Notification system

PHLS Zoonoses Consultative Panel

PHLS Working Party on Viral Gastroenteritis

PHLS Committee on Salmonellas

PHLS Research Project Committee

South Glamorgan Health Authority Legionella Working Party

Advisory Committee on Dangerous Pathogens

Welsh Office meetings of Chief Environmental Health Officers

Welsh Office Meetings of Chief Administrative Medical Officer

Welsh Office meetings of Specialists in Community Medicine (Environmental Health)

DISS/Welsh Office Hepatitis Advisory Group

Welsh Office Hydatid Disease Steering Committee

Welsh Scientific Advisory Committee Microbiological Standing Specialist Advisory Group

South Glamorgan Health Authority AIDS Coordinating Team

MRC AIDS Working Party on Epidemiological Studies

EAGA Subgroup on employment of HIV antibody positive health care personnel

Welsh Office AIDS Steering Group

South Glamorgan Health Authority Section of Medical Microbiologists

South Glamorgan Health Authority Emergency Control of Infection Committee

PEARSON A D

PHLS AIDS Action Co-ordinating Committee
 PHLS Working Group on Campylobacter Infections
 Chairmen of the PHLS/Lancaster MicroLab. Computer Implementation Team
 Gastro-Intestinal Physiology Working Group (John Hopkins University, USA)

Scientific Committee of the 4th International Workshop on Campylobacter Infections: Goteborg, Sweden

SOCKETT P M

DHSS Molluscan Shellfish Committee

Working Group of Molluscan Shellfish Committee preparing Code of Practice for shellfish industry

PHLS Co-opted onto Salmonella Sub-committee for revision of Supplement 1

TILLETT H E

PHLS Standing Advisory Committee on Influenza

PHLS Standing Committee on the Microbiology of Water

PHLS Committee on Legionnaires' disease

Department of the Environment/Public Health Laboratory Service Panel SCA 7.3 on Microbial Tracers.

Editorial Board of Journal of Hygiene

WATSON J

PHLS Standing Advisory Committee on Influenza

YOUNG S E J

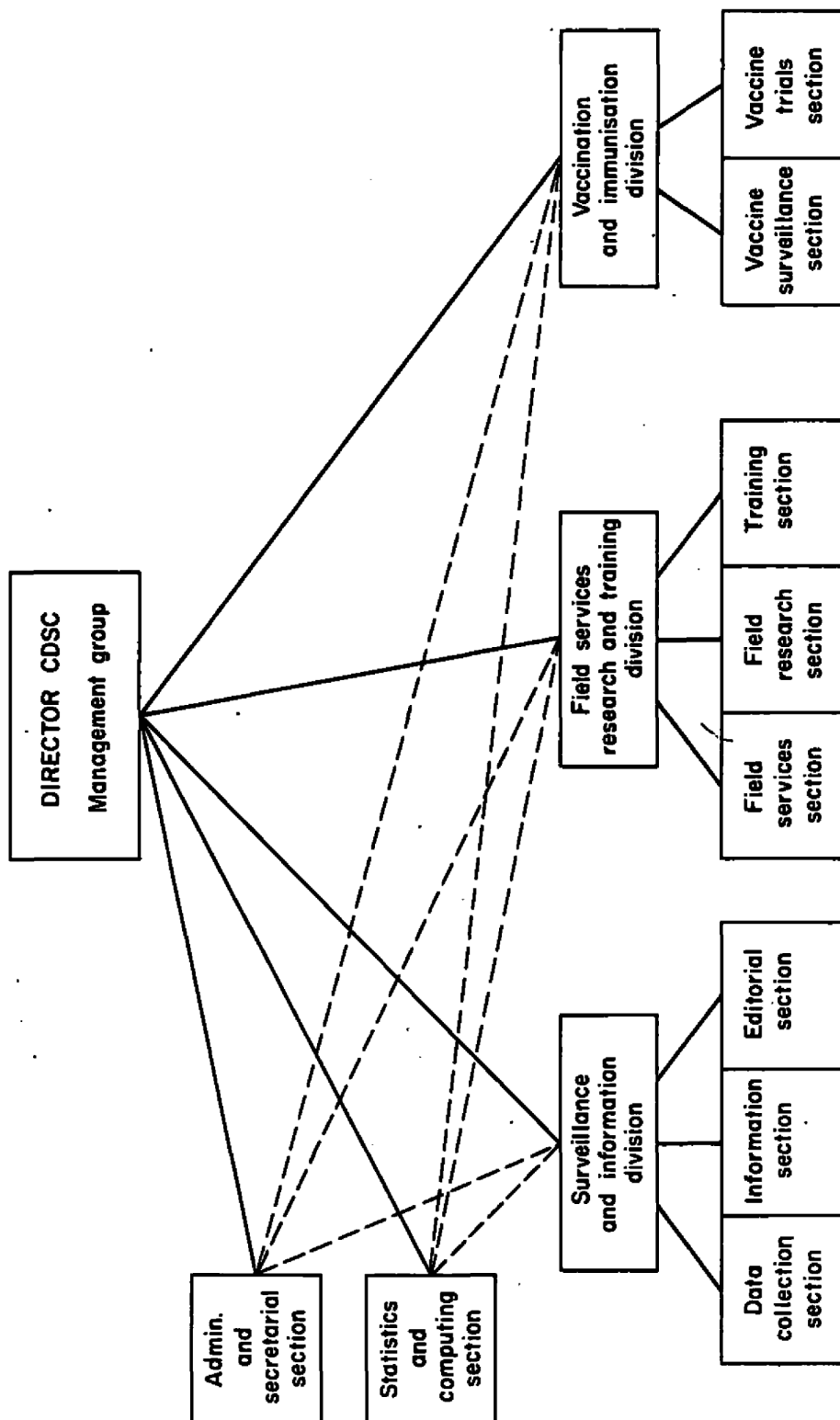
PHLS Working Group on Campylobacter Infections

PHLS Publications Editorial Committee

DHSS Hepatitis Advisory Group

**Proposed Organisation and Staff, Five Year Plan
1986/87 to 1991/92**

COMMUNICABLE DISEASE SURVEILLANCE CENTRE
PROPOSED ORGANIZATIONAL STRUCTURE 1987-92



COMMUNICABLE DISEASE SURVEILLANCE C **IE**
Staffing Proposals 1986/87 to 1991
Medical, Statistical, Administrative and Secretarial Staff

YEAR	MEDICAL	STATISTICS & COMPUTING	ADMINISTRATIVE & SECRETARIAL
1986/87	Consultant, field services. New post agreed	Basic grade scientist New post agreed	Regrade Centre Administrator SAA to Scale 9 Regrade Centre Deputy Administrator GAA to SAA
		Regrade head prin scientist to top grade scientist	Regrade 5 senior admin secretary posts HCO to GAA
1987/88	Consultant, vacc & imm. surveillance Replace Dr C L Miller Consultant physician 0.40 WTE. New post	Basic grade scientist New post	Admin Sec to Vacc/Imm Division GAA New post
1988/89	Consultant, paediatric surveillance, conversion of Dr Hall's half-time post to FT Consultant, Gastro-intestinal disease. New post.	Sen Scientist. New post Top grade scientist. Head of section. Extend from 0.79 to full-time.	Assistant Administrator GAA. New post Sec to Cons Gast Int Infection, HCO New post
1989/90	3 New Sen Registrar Posts Consultant virologist. Vacc & Imm - New post Consultant. Resp disease New post	Sen Scientist. Vacc & imm New post	Sec to Cons virologist HCO - New post Sec to Cons Resp disease HCO - New post
1990/91	Consultant, surveillance head of Surveillance/Inform. Division. New post	Senior Scientist. Surveillance. New post	Admin Sec to Cons Surveillance GAA New post Project Man. New accomodation SAA. New post
1991/92		Principal Scientist, Deputy Head of Section. New post	
S	1. 5 new FT consultant posts	1. 1 new Principal Scientist	1. Regrade SAA to scale 9
U	2. 1 new 0.4 WTE Cons post	2. 3 new Senior Scientist	Regrade GAA to SAA
M	3. Replacement of p/t Senior Epidem. by FT Consultant	3. 2 new Basic Grade Scientist	Regrade 5 HCO to GAA
M	4. Extension of one half-time Consultant to full-time	4. Regrade Principal Scientist to top grade and extend from 0.79 to FT	2. 1 new SAA 3. 3 new GAA 4. 3 new HCO
A			
R			
Y	5. 3 new senior registrars		

**COMMUNICABLE DISEASE SURVEILLANCE (RE)
STAFFING PROPOSALS 1986/87 to 199...**

Staff of Divisions

YEAR	SURVEILLANCE & INFORMATION	FIELD SERVICES, RESEARCH AND TRAINING	VACCINATION & IMMUNISATION
1986/87			Regrade Principal Microbiologist, vaccine research, to Top Grade Scientist.
1987/88	Basic Grade Scientist Lab reporting New post.		
1988/89	Principal Scientist. Deputy Editor, CDR. New post. Senior Scientist. Surveillance. New post. New post. Regrade 1 SAA & 2 GAA to Basic grade scientist Retain 2 SAA, 3 GAA	Sen. Scientist, Epidemiologist New post.	Sen Scientist, vaccine surveillance. New post Basic Grade Scientist, Research Assistant. New post
1989/90		Sen. Env. Health Officer New post Sen. Nursing Officer. New post	
1990/91	Senior Scientist, Information Systems. New post	Basic Grade Scientist. Research Assistant. New post HCO Data Preparation. New post	GAA vaccine research. New post GAA vaccine surveillance New post
1991/92	Art Editor SAA. New post Senior Chartist. New post	SAA Training Officer. New post	Basic Grade Scientist. Research Assistant. New post
S	1. 1 new Prin Scientist	1. 1 new Sen Scientist	1. 1 new Senior Scientist
U	2. 2 new Sen Scientists	2. 1 new Basic Grade Scientist	2. 2 new Basic Grade Scientists
M	3. 1 new Basic Grade Scientist	3. 1 new Sen Environ Health Off.	3. 2 new GAA
M	4. 1 new SAA	4. 1 new Sen Nursing Officer	4. 1 Principal Microbiologist
A	5. 1 new Senior Chartist	5. 1 new SAA	regraded to Top Grade
R	6. Regrading of 1 SAA & 2 GAA to 3 Basic Grade Scientists	6. 1 new HCO	Microbiologist
Y			