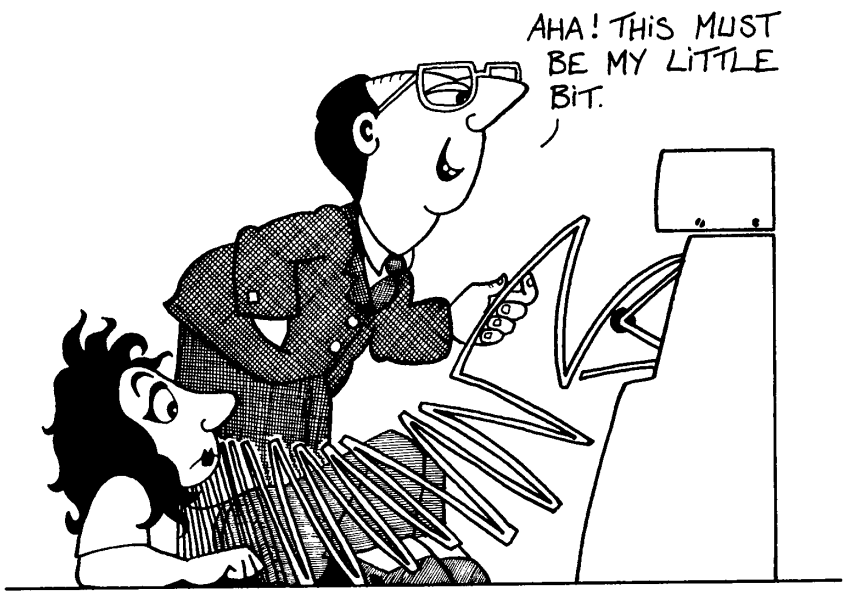
MAKING USE OF COMMUNITY HEALTH SERVICES INFORMATION

REPORT OF A WORKSHOP



King's Fund
Primary Health Care Group
September 1986

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Report of a workshop held at the King's Fund Centre

on Thursday 3 July 1986

Compiled by:

Elizabeth Winn
and Christine King

October 1986

Acknowledgements

We would like to thank Dr. John Gabbay for chairing the workshop and focussing some of the discussion: and also the two teams from Newham and Glasgow who presented their work as starting points for the debate.

C O N T E N T S

MAKING USE OF COMMUNITY HEALTH SERVICES INFORMATION

INTRODUCTION

This report is based on a workshop held at the King's Fund Centre on 3 July 1986 for managers of London's community health services. The purpose of the workshop was to examine the processes involved in developing objectives for information systems, and then in establishing those systems. Workshop participants were also invited to discuss the ways in which information is used beyond the printout stage to review, plan and manage services.

Two case studies were presented during the day, one from the Greater Glasgow Health Board and one from Newham Health Authority. The case studies were used to facilitate discussion and to highlight some of the key issues in community health services information. Detail about systems (e.g. hardware/software specification) was therefore kept to a minimum and process factors (e.g. consultation, training mechanisms) were emphasised. The Glasgow and Newham experiences are briefly described in the first section of this report.

The report is not a chronological account of the workshop. Sections II and III contain material that was discussed during the day and which has been collated and reorganised for this report. Although some additional information from published work has been included, the boundaries of the report are determined by the scope of the workshop. There are obviously some areas of concern to managers and users of community health services information which are not included, for example, the use of FPC data, using information to identify local needs, and some national computer initiatives. These are not covered in this report but the bibliography includes information about the wider background issues.

SECTION I

Case Studies

1. Greater Glasgow Health Board: Health Visitor Developmental Screening Model

A team from the Greater Glasgow Health Board described how they had made use of information generated by their computerised child health system. Miss Helen McIntosh (Area Nursing Officer), Miss Elva Barnie (Director of Nursing Services - Community), and Mrs. Margaret Purss (Nursing Officer) discussed some of the ways in which managers and staff could act once they began to get detailed information about the health of their community.

Health Boards in Scotland are currently working to adopt the 4-module computer-based child health record system which is being developed in Cardiff for national use. In Glasgow, however, it was felt that the proposed module relating to pre-school development was not necessarily the best way of achieving their aim of effectively recording and evaluating domiciliary health visiting. It was therefore decided to develop an additional 'module' appropriate to domiciliary health visiting, but able to be fully integrated with the 4 modules of the national computer-based child health record system.

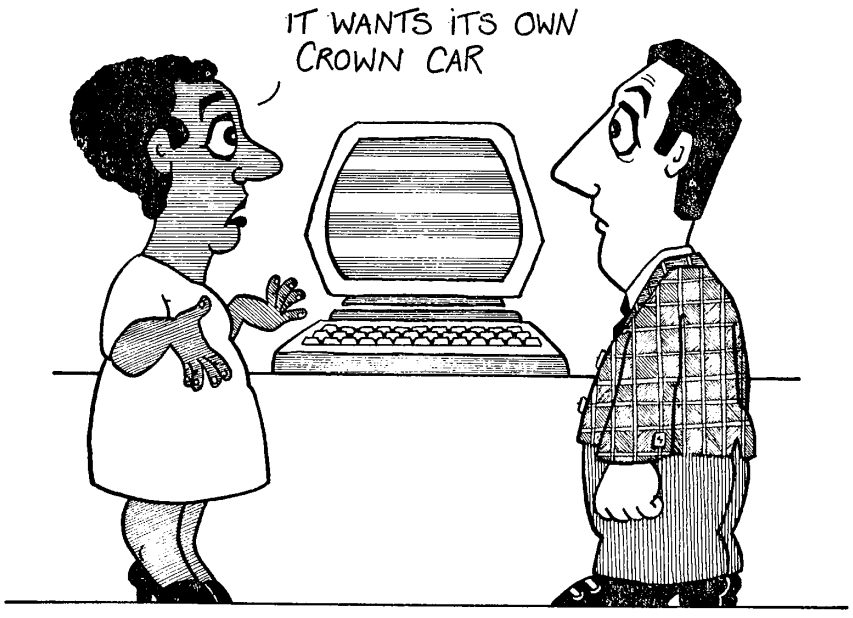
The Glasgow system became fully operational on 1 January 1982, and aims to provide as near as possible 100% surveillance, immunisation and screening of all pre-school children, and to follow up all 'defaulters'. The system is also designed to evaluate pre-school screening and surveillance by health visitors; to monitor the adequacy of service provision for children with special needs; to improve communication between professionals; to assist nurse managers in the planning and distribution of resources according to measures of need; to help individual health visitors with caseload management by providing regular 'prompt' listings; and to give opportunities for research, to focus attention on particular problem areas and to initiate specific programmes of health promotion.

The system uses the child register module from the national system to gain basic identification data, including address changes. A set of four computer returns is completed by the health visitor for each child, at ages of one month, nine months, eighteen months and forty-six months. The first return is included on a consent form for immunisation and vaccination, and requests information about breastfeeding, family size, 'special factors' such as follow-up areas for medical or other referrals, unmet or special educational needs, behavioural problems, congenital malformations and handicapping conditions, and possible contraindications to immunisation.

Taken together, the four returns are used to give a quantitative measure of developmental progress; to assess specifically vision, hearing and speech; to identify particular 'at risk' groups; and for management purposes. 'Prompt' lists of children are provided just before second, third and fourth returns are due, to assist health visitors with caseload management. All 'missing' returns are followed up to ensure that every child within the area of the Greater Glasgow Health Board receives full surveillance and screening.

Developmental assessment has four components: social: hearing and language: gross motor function: vision and fine motor control. The four components are coded using four pairs of boxes. The first box is used to denote the developmental stage appropriate to age and will be the same for each area of assessment considered: the number given in the second box is to show achievement. If the child passes tests appropriate to its age, the achievement score is the same as the developmental stage - e.g. 4:4: if the child passes no test appropriate to its age, but passes a test for the stage below, then the achievement score is one below the development stage - e.g. 4:3: and so on.

The computer programmes used are simple and staff time to complete the returns is minimal. Detailed analyses of the system, which are available for births from 1983 onwards, show that over 98% of children born and still resident in Glasgow can be kept under active surveillance until at least eighteen months of age. A variety of information can be produced from the system. Comparisons can be made to examine, for example, the relationship between breastfeeding and use of different maternity hospitals: developmental screening information can be crossmatched with other details of chronic illness in parents or siblings, previous perinatal deaths in the family, etc hospital admissions might be examined in relation, for example, to numbers of times children between one and four years have been admitted. It is also possible to measure clinic attendances, take-up of services, and to investigate why some people never attend. Information might also be used to consider a problem such as low birth weight babies in a particular area, and to see what health preventive work might help. Nurse managers have produced maps of the Health Board (broken down into post code districts) which show areas of low clinic attendance, high accident rates, etc. Once these areas have been identified, the managers discuss possible responses with their staff. For example, one area with high rates of non-attendance at clinics became a focus for health visitor concern and an experimental clinic was held in a local community centre. This not only increased attendance rates but also helped the health visitors and other health service staff to begin to find out more about the needs and perceptions of users and potential users of the service.



Information gained enables individual health visitors to take more effective control of their caseloads and to feel secure in the knowledge that virtually 100% surveillance and screening of all pre-school age children is taking place. Health visitor managers can plan more accurately and direct resources in a more rational way.

The Glasgow system has been developed in response to the need to substantiate claims for resources. It is now possible to give information in a more tangible, clearly illustrated form to health authority members concerning the work done by health visitors; and to convince them of the need to allocate extra resources to specific, targeted areas.

Overall, the system has provided an opportunity to build up a health data base for the area and to highlight health needs; it has provided increased feelings of security and job satisfaction for staff; and has enabled improved planning, monitoring and accountability to take place.

2. Newham Health Authority, Community Services Unit: Computer-Assisted Systems for Community Nursing and Paramedical Data Collection

Newham's experiences of establishing an information system in community health services were presented by Mr. Tad Matus (Information Specialist), Miss Ina Egan (Director of Nursing Services - Community) and Mr. Alan Treasure (Unit General Manager (Community)). The following case study is based on the presentation they made. The points introduced by them were discussed by participants and are included in Sections II and III.

In general in the NHS there is a lack of accurate information on the work of community nurse and paramedical staff. Computerised systems for data collection seem to offer a solution to this problem but are frequently made unworkable by the need either to provide extensive computer training for large numbers of professional staff, or to employ additional clerical staff. Newham Health Authority have therefore come up with the idea of developing a small-scale 'computer-assisted' solution which while causing little disruption to professional staff, can provide managers with the kind of detailed, accessible information they require for monitoring community nurses and paramedical services.

A number of criteria had to be met by a computer-based system for Newham. Staff working in the community generally operate from one main base but spend the majority of their working time making visits to people's homes. It was important, therefore, that the information required on each client could be recorded during the course of the domiciliary visit. The system had to be portable, and simple and quick to use in order to minimise staff time required for completion in each case.

Community units deal at any one time with a large number of patients/clients, and opportunities for making errors in recording and collecting data are therefore high. In the past, information systems in Newham had relied on the ability and willingness of professional staff to spend time once a month making counts of clients visited by referring back to their individual diaries and transferring this information on to forms. The new system was designed to relieve them of this time-consuming and unprofitable task and to bring this whole area of compilation of statistical data into a computerised system.

Newham has now identified a short term solution which provides effective aggregate data for management and allows for detailed analyses, but without increasing the staff time required. A small optical mark cardreader is used and is connected to an existing Ministrel microcomputer which is able to analyse the contents of the data on the cards. Unheaded printed cards are slotted into a labelled cardholder. This means that headings can be changed at any time keeping the system flexible. Each card consists of approximately ten lines and sixty columns; each line represents a separate client contact; and the sixty columns represent sixty possible yes/no answers about the contact. Sets of cards are specific to one practitioner, with one card representing approximately a day's work; and cards are collected and run through the computer at intervals appropriate to local management needs. The low requirements for computing and staff time mean that any existing computer can be used, no matter where it is sited or how intensively it is already used. Costs involved include the price of the cardreader, software programs and installation; plus cardholders, printing of headings and sufficient cards to provide one per practitioner per day.

The system has proved able to meet the activity recording requirements of community nursing staff and some paramedical groups, and is being extended gradually to cover all services provided by the Community Unit. An essential element in the success of the system has been the full commitment of staff. This has been helped by keeping to a minimum field staff involvement with computer equipment.

The system has some limitations. It is activity- rather than patient-based, and cannot provide all desirable types of data such as, for example, tying the work done during a particular domiciliary visit to the patient's file or to an individual health professional. Initial efforts in Newham have been concentrated on producing the right information-gathering system and programming mechanism. Thought is now being directed towards maximising the benefits of the new system: examining ways in which data collected can be most profitably used both by managers and individual professional staff, and ensuring easier access to reports prepared on specific aspects of the Community Unit's work by short term researchers.

SECTION II

What Makes Information Useful/Usable?

One common image of NHS managers portrays them swamped under screeds of printouts, reports, and other written material. If the sheer volume of the paperwork has conspired to prevent confident, informed decision making, then the information systems which have generated the data have failed in their primary task - to produce effective management tools.

Rudolf Klein and Ellie Scrivens (in "Walk Don't Run" [2.3]) say that information itself has little value and that it should be used as a tool "to aid decision making and to monitor and perhaps improve performance of tasks". Apart from controlling the volume of data reaching those making decisions, what other important factors make information useful to managers and what characteristics make it usable?

Workshop participants discussed their own experiences as providers and users of information and identified some vital characteristics which they felt would help make the best use of any information produced. Some of the characteristics are relevant to information produced by any system and are well documented [1.1], [2.2], [2.6]. Others are specific to community health services information.

1. Information should be appropriate

If it is to be an effective management tool, the information should be appropriate to the management task. It was agreed at the workshop that not all the information produced in a district/unit should find its way to the general manager, and that a key general management task should be to delimit the boundaries of appropriate information received. Some general managers operate the principle of 'exception reporting' whereby routine information is filtered by others who only pass on data to the general manager where it highlights variations, discrepancies, or divergence from the objectives of the unit or district. Managers' use of information is obviously more complex than this rule of thumb, but it nevertheless underlines the appropriate use of information in the monitoring and control functions of general management.

The use of information by general managers to oversee the service should not prevent it being presented in appropriate forms for other potential users. In other words, the macro-level aggregation of data should be complemented by an appropriate level of detail at other levels of management. For example, nurse managers in the community may need detailed information about the workloads and caseloads of a specific group of staff in order to monitor the progress of individuals, and also how far the service is moving towards agreed objectives. Individual nurses in the community need information about their own work practice and how it compares with that of colleagues. The Newham Health District case study highlights these points.

2. Accessible

A newly-installed high-tech information system may present the information users with metres and metres of printout, but just how accessible is the data contained in this? Workshop participants agreed that good presentation enhances the usability of data. For example, managers in the Greater Glasgow Health Board have compiled colour-coded maps of the area, based on indicators of health visiting needs to help make the case for reallocating health visiting resources to targeted areas. Some computer systems offer graphics or mapping software which not only help the person processing the information to produce data in an understandable, accessible form, but also assist in the initial analysis.

Making information more accessible raised questions in the workshop about the extent to which access should be fostered. Apart from managers and members of staff, who else could have access to information about health services provided in the community? The Data Protection Act 1984 regulates to protect the interests and privacy of individuals in relation to the disclosure of personal details. However, there are possibilities for providing information to those outside the staff and management sphere of the NHS who might then participate in planning for a better service. For example, information about variations in the location and uptake of health authority family planning services, and how they relate to the objectives of the authority, would be potentially very valuable to FPCs trying to develop a more planned provision of general practitioner services. Jones and Prowle[1] list other users and potential users of health authority accounts (i.e. financial information) and include health authority members, health authority employees, trade unions, local authorities, CHCs, DHSS, the Public Accounts Committee and local user groups. They stress the importance of making the information relevant and readable. Some districts (e.g. North Staffordshire) do provide summary financial data for users of the services: but apart from the aggregated data contained in the Health Service Report and other sources of statistical data at national level, there are few examples of information about services provided, uptake and client mix being made available on a district basis to local groups in the community. Some CHCs fulfil this role, for example City and Hackney CHC produced the first user guide to local health services[2] and have been followed by other CHCs. It is, however, very difficult for community groups to get sufficient detailed local information without a positive and cooperative effort from health authorities.

1 Tom Jones and Malcolm Prowle. Health Service Finance - An Introduction. 1984, pp 76-77.

2 City & Hackney CHC. Health in Hackney. The NHS in Hackney and how to make it work for you. 1977.

3. Accurate

Information used for management purposes needs to be accurate enough to ensure that safe decisions are confidently made. For example, one London district was shocked to find out that their rubella immunisation rate was well below 50% of the relevant schoolgirl population. It was only when a campaign was launched to tackle this seemingly very low figure that new information systems, developed to monitor progress in the future, revealed the inadequacies of the old methods of information collection. The previous system had clearly under-recorded the immunisations. Although the campaign was successful in achieving record immunisation rates, it was probably at least as useful in establishing an accurate information base from which future strategies could be safely developed.

The accuracy of information is to a large extent dependent upon the motivation and skill of the initial recorder, and indeed the Korner working party recognised the crucial importance of investment in training the data inputters. Training is simpler if the method of input is itself simple; this in turn helps to ensure the accuracy of the end product. One of the key characteristcs of the Newham Health District information system is the simplicity of the standard data form which requires only pencil strokes for it to be 'read' by the computer. Training can therefore help improve the accuracy of the information. It also has other uses (e.g. improving understanding of service objectives, enhancing information use) which are discussed later in this report.

4. Timely

With calls becoming stronger for a more responsive NHS, there is a real need to know more about what is happening now - rather than what happened two years ago or 'at close of business' at the end of the previous financial year. Rapid feedback of information not only helps to ensure that problems are quickly identified, but also allows plans to be made based on up-to-date data . In Newham one of the initial objectives for the information system was to "close the information feedback loop". Instead of data entering a processing cycle - moving from staff, to line managers, to unit managers, to district managers, region and DHSS, and eventually being fed back after having fulfilled a variety of statutory information requirements - emphasis in Newham was placed on ensuring that feedback to staff and managers in the community was rapid enough to provide information on which day-to-day decisions could be made. This also has the added advantage of motivating data collectors and influencing the accuracy of the information.

5. Broad based/panoramic

Korner recommends a number of minimum data sets for the NHS, which could form the basis for statistical information produced for management purposes. However, a number of workshop participants felt that statistical data is only one form of information and suggested that other sources of information should also be tapped. For example, the transfer of information about health authority-provided services to FPCs should in the future be reciprocated by health authority access to the FPC population-based information system. For example, Barnsley FPC have used their data base to create 'need' and 'activity' profiles for each electoral ward in the district and hope to collaborate with the Health Authority in planning and organising services.

It is also useful to investigate some of the less traditional information sources, e.g. health visitor student patch profiles, informal conversations on 'walkabouts', complaints, CHC knowledge.

The above characteristics emerged throughout the workshop as being necessary for making information useful and usable. The next section discusses some of the important process factors which affect the introduction of information systems in community health services.

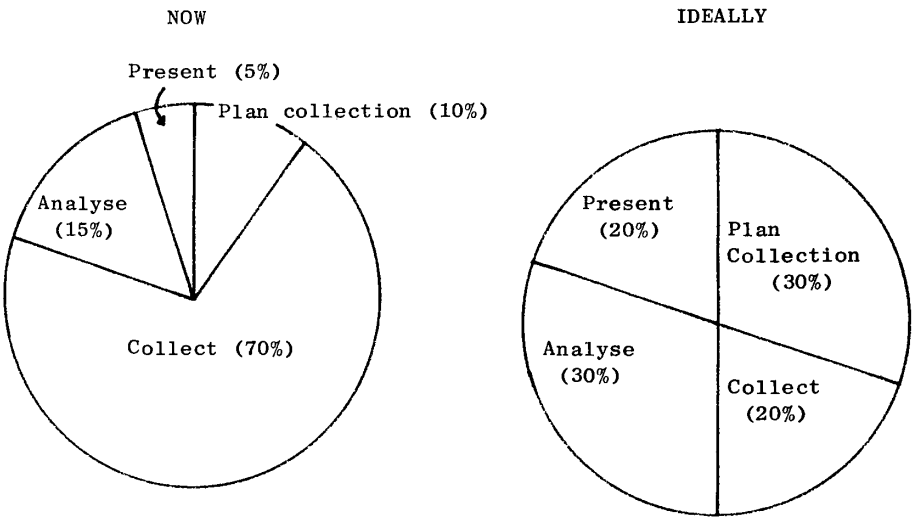
SECTION III

Establishing Information Systems - The Important Factors

One of the purposes of the workshop was to highlight some of the considerations for managers of community health services when establishing information systems. In addition to the case studies presented formally, participants were encouraged to share their own experiences and problems as a starting point for identifying what was important for the successful implementation of information systems. The following points emerged during discussions.

1. The significance of the planning stages

It has been suggested[1] that the collection of information occupies an overwhelming proportion of the information task, with analysis, presentation and planning assuming less significance. It might be better to change the emphasis so that planning, analysis and presentation move to the forefront, and collection as a task per se is minimised.



Source: Kerr White

Whatever the proportions, the workshop participants agreed that the planning stages were crucial to the success of the implementation. Some of the stages in the planning process were discussed and these are incorporated below.

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1 K. White. Information for Health Care: an epidemiological perspective. In Inquiry 17, 1980, pp 296-312.

2. Setting objectives for services

The team from Newham were keen to emphasise the importance of agreed objectives for the various health services provided in the community. On the basis that there was little point in collecting information about services that were not necessarily useful in the first place, Newham Community Unit first undertook a series of service reviews. Specific service objectives emerged from these and helped those involved in changing the information system to identify the sort of data that should be collected in order to monitor the service in relation to its objectives. Similarly Glasgow's service objectives could be compared with what was actually happening and action taken as necessary.

3. Setting objectives for the information system

Some workshop participants felt that it was important to develop objectives for the information system itself and thereby restrict its 'role' and responsibilities as a management tool. For example, where services deviate from agreed performance standards (e.g. 96% rubella immunisation rate for schoolgirls), the 'role' of the information system is to prompt an investigation or a closer look rather than to allow the manager to make a judgement on the basis of statistics alone. Where the information system has a number of tasks (as is usual) these should be made clear to those potentially affected by them. If the system is to provide DHSS statistics, monitor service objectives and review the performance of individual members of staff, then this should be made explicit and discussed in the early stages of implementation.

4. Communicating objectives

Workshop participants who had been involved in bringing about change in a variety of management contexts stressed the importance of involving staff throughout the planning and implementation stages. They felt it was important to consult at all levels to clarify everyone's expectations and to discuss the objectives of the information system. Whilst some suggested that consultation had to take place within the strict parameters laid down by DHSS, Korner and (sometimes) regional health authorities, others were keen to describe the advantages of as full a consultation as possible. In Glasgow, consultation had taken place with field staff on the grounds that the system became more attractive to its users when changes were introduced to meet the needs they themselves had identified. Another manager described how the introduction of a computerised information system had been planned at 'steering group level' with little contact with other staff. As a result misunderstandings arose and the system was badly operated until more explanations were provided and opportunities offered for discussion. Bromsgrove and Redditch Health Authority have produced a booklet about their experiences of implementing Korner [3.4]. They recommend that:

> "Staff organisations should be informed about the exercise from the outset":

and that:

> "Open seminars or discussion groups are needed for staff 'at shop floor level' who will be involved in carrying out the changed data collection requirements".

Some of the stages of consultation might take place in a later training programme but it is important that consultation does take place in the early stages, and that staff are sure about and support the objectives of the information task.

5. Feedback

Feedback is an essential component of the implementation process. The communication of objectives and plans should take place at regular intervals, together with feedback on progress and problems to date. Managers in Bromsgrove and Redditch suggest that:

> "Communication between all involved parties needs to be organised, regular and open".

In addition to process feedback, those planning the information system should be committed to feeding back data once the system is operational. The Newham team were very keen to ensure that those inputting the information received prompt feedback of aggregated data (see 'Timely' in Section I). Some staff in a London health authority have complained that they were unaware of their patch's immunisation rates compared with other parts of the district - even though individually they regularly completed returns for Korner-style information systems. The service therefore appeared to be monitored at a distance and "absentee planners" expected commitment for new service strategies from field staff who lacked basic information.

Staff in Worcester and District Health Authority responsible for implementing management budgeting systems in the community have organised seminars with managers to discuss how they might respond to the information produced by the system. These managers in turn feed back information about workloads, etc. to field staff, and appropriate responses are discussed. Managers are encouraged to take a broader view of the service and tackle areas of concern in the context of service objectives and plans rather than simply coping with problems individually as they arise.

6. Training

The process of implementation generates a wide range of training needs. Workshop participants discussed the need to train the data collectors: not only in relation to the mechanisms and systems of collection but also, since feedback was agreed to be important, in relation to the subsequent use of data coming back to them. Managers from Newham also recognised the need to train both line and general managers to identify and use appropriate data.

Bromsgrove and Redditch recommended formally established training programmes to meet the widely varying training needs of operational and managerial staff. They include in their checklist for action on training the communication of the objectives of and background to the new information system as well as the technical skills for collecting and handling data from, usually computerised, systems.

One obvious outcome for successful training is improved accuracy through the establishment of standard procedures. Chris Wills [3.11] described several data collection problems related to lack of standardisation for Ealing's community nursing data. For example, there were no agreed procedures for

describing and recording treatment, so some nurses recorded each dressing (whether one, two or more per patient), whereas other nurses counted one dressing per patient, regardless of how many they actually carried out. Ealing are now piloting an improved data collection system which will aim to tackle these anomalies.

7. Managerial support

Workshop participants highlighted what they felt to be crucial aspects of an implementation programme for information systems in the community. Resource requirements in terms of hardware, software and staff time were felt to be considerable, and some community unit staff taking part in the workshop were concerned that the level of investment required at each stage was not recognised by their managers at unit, district and regional level. Some felt that in part at least this was due to the lack of status afforded to community units despite the lip service paid to care in the community. It was also felt that the tradition of poor information systems in the NHS meant that some managers were still unaware of the relatively high investment needed to ensure effective implementation of information systems. Bromsgrove and Redditch considered that the commitment of the district general manager to the information task was an "essential prerequisite", and that he/she should be involved continually throughout the process of implementation.

SECTION IV

Community Health Services Information
Annotated Bibliography

The list of references has been grouped into new and background material, descriptions of some practical examples of community health services information systems, and an introduction to some of the management issues associated with health information systems generally. A brief section on the use of FPC data is also included.

The notes under each reference usually paraphrase the content of the article. Additional explanatory information is bracketed.

Most of the articles and publications included on the list can be found in the Library at the King's Fund Centre, 126 Albert Street, London, NW1 which is open for reference purposes from 9.30am - 5.30pm, Monday - Friday and 9.30am - 5.00pm on Saturday.

1. Update

This section includes recent publications which are relevant to information systems in the health services, and which provide a context for new initiatives and experiments in this field.

1.1 Community Health Information Project (CHIP) Management Overview. August 1985. Available from: NHS Centre for Information Technology, 19 Calthorp Road, Edgbaston, Birmingham. BI5 1RP.

(In 1984 a firm of management consultants reported on community health computerisation and recommended the development of a comprehensive framework for community information systems generated by Korner and a new comprehensive community information system. A first Phase report was produced which is an appraisal of current systems and information requirements: the management overview (above) is a summary of Phase I of the project.

Since publication of Phase I, the National Strategic Framework for Information Management in the Hospital and Community Health Services has been published and CHIP's focus has been redirected. Instead of developing a community health system which would interface with other systems in the NHS, CHIP will now be building on the NHS-wide information system of which the community health system will be one facet. Hopefully, in this way the variations in community units and community health services provided can be taken into consideration.

The second phase will begin at the end of 1986 and will report within the next 12-18 months. A series of local developments will be fostered by CHIP so that specifications for systems can be developed. DGMs and RGMs have been approached for suggestions about possible local developments.)

1.2 A National Strategic Framework for Information Management in the Hospital and Community Health Services. (Draft) NHS Management Board's Information Management Group. March 1986. Available from: Health Services Information Branch, DHSS, 286 Euston Road, London, NW1 3DN.

This draft report outlines a strategic approach to information management and describes the efforts that will be made centrally to establish strong information management systems throughout the NHS. These measures include encouraging Regions to set out clear and quantifiable objectives in their strategic plans, monitored through ministerial and performance review; establishing a national training advisory working party to produce a technical skills and management training plan for new entrants and existing staff; investigating aids to productivity; and encouraging the effective use of information.

(The draft has been produced for consultation by the NHS Management Board's IMG in liaison with the Information Advisory Group. The final document will be produced in October 1986.)

1.3 Fairey's Framework. Phil Windsor. British Journal of Health Care Computing. May 1986.

An interview with Mike Fairey (NHS Director of Planning and Information Technology) focusing on the National Strategy Framework. The article also includes a summary of the Framework.

1.4 Fairey's Fallacies. Bob White. British Journal of Health Care Computing. July 1986.

A review of the National Strategy Framework which supports the creation of the Framework but which highlights the gap between information technocrats and mainstream NHS managers. Bob White suggests that the timescale for implementation is unrealistic and that regional Health Authorities will need help in developing greater executive awareness, in defining their requirements, in acquiring appropriate skills, and in understanding the problems of implementation.

2. Background

The publications included in this section include some key articles describing the principles and content of various developments in health services information generally and also in community health services information, for example Korner, FIP (Financial Information Project). Section 3 contains material on the implementation of some of these developments.

2.1 HC(84)10 Health Services Development. Reports of the Steering Group on Health Services Information: Implementation Programme. DHSS.

The circular announces a programme for implementing the reports of the Korner Working Party.

2.2 Management Information Initiatives in the NHS. Christine Greenhalgh Public Finance and Accountancy January 10, 1986.

This article includes a section on the philosophy underpinning FIP (Financial Information Project) and some of the work carried out by them. Working principles include:

information systems need to be a part of the operational work of the department, ie should include diaries, schedules, etc.

management information for medium to long-term monitoring should be a spin off from information for day-to-day management.

systems should be patient-based.

2.3 Walk don't run. Ed Alastair Mason and Victor Morrison. Published by King Edward's Hospital Fund for London, 1986.

A collection of essays on information issues published to honour Mrs Edith Korner CBE, Chairman of the NHS/DHSS Health Services Information Group 1980-84.

2.4 The National School Health Computer Programme. Pam Patterson. Health Visitor August 1986 Vol 59.

The author recounts a discussion at the Amalgamated School Nurses Association about the National School Health Computer Programme. The school health module (part of the National Child Health Computer System) is designed to provide scheduling facilities for immunisation, medical and dental inspections and other health surveillance activities. Links with the education authorities are planned so that information on leaving/starting school can update the data base.

The module will facilitate the improved exchange of information (in particular with the GP), easier access to absentees to enable follow up, better information to researchers and health service staff.

2.5 Child Health Comes of Age. Michael Rigby. British Journal of Health Care Computing Vol 2 No3 July 1985.

The author discusses the national child health computer system. He outlines the background of the system and some of its key characteristics, eg it is national in terms of development and availability, but its use by individual health authorities is autonomous: there is therefore scope for variation in timing and clinical content of examination schedules and in appointment methods. The article goes on to describe the outcomes of trials and the subsequent system developments.

2.6 Steering Group on Health Services Information. A report from working group D - Community Health Services. January 1983.

This report summarises the general needs of the NHS and DHSS and goes on to outline the information requirements for community health services:

a) about services to the community, and
b) about patient care in the community.

2.7 Management Information in the National Health Service: the use of the child health computer system. Ellie Scrivens. Community Medicine Vol 6 No4 1984.

A description of the way the information generated by the national standard child health computing system can be used for management purposes, for example, by drawing out some of the factors which determine the uptake of immunisation by certain parents and not others. By examining the measles immunisation up-take in one district the author highlights areas for further investigation by management and demonstrates that the information system could have been put to greater use than it had been.

2.8 The British Journal of Health Care Computing is the main vehicle for disseminating information about entries to the NHS computing Applications Register. The Register includes information about transferable systems (such as vaccination and immunisation/child health) and contacts for further details.

2.9 Information Technology in Health Care. A handbook. Institute of Health Service Management. 1986.

The IHSM have produced this looseleaf handbook for both technical and non-technical managers in the health service. It covers national initiatives, supplies, individual applications and systems and discusses some of the background and implementation issues (eg Data Protection, site preparation, staffing needs).

3. Practical Examples

The following publications are about information systems which have been implemented around the country and which in various ways provide some useful lessons for managers and users of information systems.

3.1 A local nose on a national face. Chris Atkins, Bob Greenslade. HSJ 7 August 1986.

South West Region have developed a local data base using as a base the National Child Health Computer System as a foundation. The authors list some of the features of the system which include rapid recall of records by a search on name, year, month or day of birth, sex, or school; rapid recording/updating; storage of reference files for vaccination/immunisation etc; workload/performance indicators. It is suggested that there are revenue savings of £10,000 per year net.

Eighty per cent of GPs eligible within the district are now scheduling within the system and the authors say that this will

eventually lead to a general reductions in the number of Child Health Clinics provided by the district.

Confidentiality is maintained by using passwords and 'logon' names which are controlled by the child health services manager, and transfer to the regional mainframe computer is done on magnetic tape.

The system is available for release to other health authorities and in written in MUMPS. The software is crown copyright.

3.2 Electronic Mailboxes. Clive Bath. British Journal of Health care Computing Vol 12 No3 July 1985.

This article describes the use of the Merlin Healthnet communication and information system in Riverside Health Authority. The system is used in particular to communicate information between primary and secondary health services by transmitting written material via the telephone. For example, Community Nursing Services can be mobilised rapidly and efficiently.

3.3 A Layman's Guide to the MIPP Systems. The Management Information Project. Bromsgrove and Redditch Health District. January 1985.

This guide describes the system developed by MIPP and reproduced here to help other Districts implement Korner. The guide includes a description of the community health services information system.

3.4 Lessons from Implementation. Drawn from one district's experience of implementing Korner. Bromsgrove and Redditch Health Authority. July 1985.

(Bromsgrove and Redditch Health Authority hosted a Management Information Pilot Project. The project was designed to test an integrated range of management information systems based on Korner.) This booklet is a very readable analysis of the important process factors for implementation and sets out a number of action points and checklists including a checklist of specific implementation tasks relating to community health information systems.

3.5 Effective Costing for Community Provisions. Kathy Johnson. HSSJ. December 6 1985.

The author describes the introduction of FIP (Financial information Project) to South Birmingham Health Authority. The project centred on the development of patient-based costing (primarily in the community but also in hospitals) which is obtained as a by-product of existing systems but with new activity recording procedures and new software for analysing the data.

A patient master index is compiled from data produced by district nurses and geriatric health visitors who complete patient registration sheets. The index is supplemented where necessary by

an assessment form which sets out "social support and nursing requirements" for individual patients. The assessment form, together with the nursing staff's diary sheets help to plan and manage workload more effectively since equipment and supplies for patients can be ordered automatically.

The system produces DHSS statistics automatically together with Korner information for home nursing services.

3.6 Keeping Tabs on Community Care. Annabelle Mark. HSSJ. February 6 1986.

A description of a computerised psychiatric service information system which is patient-based and provides management information as a by-product.

3.7 The Glasgow Health Visitor Developmental Screening Module. Helen T McIntosh and John Womersley. Community Medicine Vol 8 No2. May 1986.

The authors describe how the national child health record system has been modified to provide important information about, for example, the incidence of breast feeding, congenital malformations, developmental delay, attendance at child health clinics and hospital attendances. The system is used to monitor handicap and to divert health visiting resources towards areas of special need.

(The Greater Glasgow Health Board presented their work as a case study at the workshop and a description of their work is included in Section I of this report.)

3.8 Piloting Korner. Published by King's Fund on behalf of the NHS/DHSS Health Services Information Steering Group. 1983.

This booklet incorporates the views of senior administrators who were involved in the four pilot districts for Korner implementation, ie Exeter, Herefordshire, North Tees and South Birmingham. Comments on feasibility are made together with descriptions of some of the stumbling blocks, eg volume of education and training needed, running duplicate systems, lack of clinical support for some functions.

3.9 Taking the Community into Account. Jim Waits, Neil Chapman. HSSJ. September 5, 1985.

The authors describe how Worcester and District Health Authority developed workload related budgets and introduced a management budgeting system into community health services.

The activity definitions used are similar to those used in FIP (Financial Information Project - South Birmingham) and MIPP (Management Information Pilot Project - Bromsgrove and Redditch). Staff complete a daily record and, in addition to activity records used to produce management budgets, the system generates information which covers DHSS statistics, travel expenses etc.

The article includes an examination of the differences between hospital and community budgeting and the complicating factor of independent contractors (GPs) potentially acting as budget holders for the community health services.

3.10 Management budgeting in the Community. Setting up the system. Wendy King 1985 (Unpublished). Available from: Wendy King, Senior Nurse (Support) Family and Preventive Care Services Unit, Worcester and District Health Authority, Issac Maddoc House, Shrub Hill Road, Worcester, WR4 9RW.

The management budgeting systems in Worcester and Districts' Community Health Services is described in more detail by the author who is a senior support nurse charged with facilitating the implementation of the system. The development and introduction of new working methods and information systems are described along with training methods. The initial anxieties and fears amongst nursing staff are discussed as are the attempts to defuse them. Other 'teething troubles' are discussed eg omission, incorrect coding, initial rise in clerical work. However, it seems that in the end staff reactions were favourable and the system is helping managers to formulate workload related budgets as well as to monitor performance.

3.11 Korner in the Community. Chris Wills. Nursing Times. 16 April 1986.

Chris Wills describes how Ealing Health District has identified problems with data collection and has developed a pilot project which attempts to upgrade the quality of information collected in community nursing. At the moment the Community Activity Recording in Ealing (CARE) project is management-centred but there are plans to adapt this to patient-centred approach.

4. Management Issues

This section contains material which outlines some of the broader management considerations and strategic implications of health services information. The articles variously highlight the importance of putting information into a management and planning context, and the role of managers in using and developing information systems.

4.1 A Regional Computer Strategy. Bud Abbott. British Journal of Health Care Computing. May 1985. Vol 2 No2.

The author describes the development of an integrated plan of computer development and information systems for NETRHA. The need for a plan was clear in order to avoid the piecemeal growth of computer systems and to prevent duplication of effort and incompatibility. An element of control over districts and individuals within them is therefore introduced.

4.2 Information Needs of the General Manager. Basil Bonner and David Hall. Medical Record and Health Care Information Journal. Vol 27 No1 February 1986.

The article reports on a study day and includes contributions from Barbara Young (DGM, Paddington and North Kensington), Alan Davidson (DGM, North East Essex), David Clarke (Head of DHSS Health Services Information Branch).

4.3 Getting the data recipe right. John Gabbay and Peter Drury. HSJ March 20 1986 Vol 96 No4991.

The authors focus on the use of data once it has been collected and collated. They report on a survey which looked at managers' views on presentation and use of information. The findings are discussed together with the implications for managers. For example, it was felt to be very important to think about how to analyse and present information useful to managers and to involve them in that process. The authors conclude that districts need to pay close attention to plans for presentation and use of information or else face drowning in a costly sea of data.

4.4 What information for general managers? S C Haywood. Hospital and Health Services Review. July 1986.

The author examines the nature of general management and concludes that universal prescriptions for information requirements are pointless. He therefore suggests that the fruitless search for a national panacea shifts the responsibility for establishing information requirements on to general managers themselves. He then goes on to suggest starting points for trying to develop local information strategies.
1) by identifying key issues for analysis and decision, and
2) by identifying aspects of performance on which the manager/authority will want to be regularly briefed.

He then describes how standards might be set and how information systems can help monitor through reporting on exceptions.

4.5 Developing a district IT policy. Published by King's Fund on behalf of the NHS/DHSS Health Services Information Steering Group 1983.

Proposals formulated by members of a workshop held in June 1983 about the development of a district policy for the introduction of information technology (IT) with particular emphasis on the implementation of computerised, departmental information systems. Suggests consultation with all grades of staff and notes that some districts have found it useful to negotiate new technology agreements.

4.6 Policy, Power and Information Technology in the NHS. Ellie Scrivens. Centre for the Analysis of Social Policy. The University of Bath. 1985.

The author puts forward an alternative view about the introduction of information systems in the NHS and the social and political implications of better health services information. She discusses, for example, the effects of accurate information about immunisation uptake upon approaches taken by health visitors and GPs in pursuing 'defaulters', and the fact professionals will have to face up to the old dilemma of dereliction of duty or infringement of liberty. The problem will have to be faced now that lack of information is no longer an excuse for inaction. The author questions how far NHS objectives can and should be modified to take account of the opportunities offered by information technology itself.

5. Family Practitioner Committees

The following section is included to highlight some of the possibilities for FPCs, and DHAs and FPCs jointly to use information for planning and managing services.

5.1 Family Practitioner Committees, Computers and Community Medicine. A L Bussey. Community Medicine. 1984 Vol 6 47-49.

The author highlights some potential uses for FPC computers and suggests that there is no other register available now or in prospect with such a comprehensive population coverage. If it were to be used as a master register for DHAs there are opportunities for linking with the National Child Health Computer System and computer-based patient master indexes which are being created in a number of hospitals.

There are of course potential pitfalls (eg variations in catchment areas, confidentiality) and some agreement needs to be reached - locally, regionally, or nationally - about what sort of information can be exchanged and with whom. It is suggested that local initiatives, which may mean that progress is patchy, are the best way forward and that the maintenance of compatibility on a larger scale might be better achieved by using the local community physicians as the channel of national advice on coding, rather than attempting to enforce agreement from above.

5.2 Management Initative - Use of FPC data base. Keith A Houghton. The Family Practitioner Services. Vol 13 No 5 May 1986.

The author describes a pilot project whereby FPC computer data is analysed in relation to enumeration districts to produce 'need' and 'activity' profiles for individual wards of Barnsley Health District. The data will be used to facilitate the planning and managerial activities of the FPC. The FPC also aims to make use of the socio-demographic information collected through OPCS (Office of Population Census and Surveys). Profiles of the NHS list of each

GP can then be produced with corresponding activity analysis which will allow performance to be reviewed in terms of meeting the needs of clients served.

Managers of Barnsley FPC have developed a strategy statement which covers the new responsibilities of FPCs since April 1985 and of which the computerised data base is an integral part. The strategy is known as PIMMS

P Planning procedure
I Information availability
M Management of service
M Monitoring of provisional resources
S Service enhancement

Plans for collaborative procedures with FPC, GP and DHA data base are well under way.

5.3 Family Practitioner Committee records - a neglected resource. 1. An information service for general practitioners based on claims for fees. Conrad M Harris, Francis Hanson. Journal of the Royal College of General Practitioners March 1986, pp 111-113.

5.4 Family Practitioner Committee records - a neglected resource. 2. Drawing the profile of an area. Conrad M Harris, Francis Hanson. Journal of the Royal College of General Practitioners April 1986, pp 165-168.

5.5 Family Practitioner Committee records - a neglected resource. 3. Three inner city areas compared. Conrad M Harris, Francis Hanson. Journal of the Royal College of General Practitioners.

This series of three articles looks at a number of potential uses for data held by FPCs. The authors set out ways of providing information that will be valuable to individual GPs and to planners in FPCs and DHAs. They also examine some of the limitations of using FPC data.

SECTION V

List of Participants

Chairman: DR. J. GABBAY*. Senior Registrar. Community Medicine.
Oxford Regional Health Authority

Bexley Health Authority

MRS. B. JARRETT	Unit Administrator. Community/Mental Handicap
MRS. P.J. O'CONNOR	Director of Nursing Services (Community)
MS P.C. PILGRIM	Senior Nurse. Health Visiting

Bloomsbury Health Authority

MR. K. MURPHY	Community Information Manager
MR. J. SCANDRETT	Acting Unit Administrator - Community Services

Bromley Health Authority

MR. K.J. FARRINGTON	Unit Accountant. Community/Mental Handicap Services
MR. N. MCLEAN	Assistant Unit Accountant
MRS. B. RUMGAY	Acting District Physiotherapist
MRS. M. WELLS	Assistant Director of Nursing Services

Ealing Health Authority

MRS. E. COOK	Director of Nursing Services (Community)
MISS M. PARKER	Nursing Officer
MRS. C. WILLS	Assistant Director of Nursing Services

Greater Glasgow Health Board

MISS E. BARNIE*	Director of Nursing Services (Community/ NE Unit)
MISS H. MCINTOSH*	Area Nursing Officer (Nursing/Midwifery/ Paediatrics)
MRS. M. PURSS*	Nursing Officer

Hampstead Health Authority

MRS. E.M. ELEY	Director of Nursing Services (Community)
MRS. GREENWOOD	Operational Services Manager

* denotes speaker

Hillingdon Health Authority

MRS. H. DAVIES	Director of Nursing Services (Community)
MRS. L. O'SHEA	Senior Nurse

Hounslow & Spelthorne Health Authority

MS K. COMPTON	Unit Accountant (Community)
MR. K. PAGE	Unit General Manager (Community)
MRS. C. SIMPSON	Director of Nursing Services (Community)

Kingston & Esher Health Authority

MS F. CHALMERS	General Administrative Officer
MR. G.H. KENNEDY	Assistant Director of Nursing Services
MRS. V. LLOYD	Senior Administrative Officer, Personal Health

Newham Health Authority

MS I. EGAN*	Director of Nursing Services (Community)
MR. T. MATUS*	Information Specialist
MR. A. TREASURE*	Unit General Manager (Community)

North Staffordshire Health Authority

MR. C. CLEWS	Unit Administrator, Community Health Services
MRS. E.E. BARKER	Senior Support Nurse, Community Health

Paddington & North Kensington Health Authority

MR. D.J. CHAMBERS	Director of Chiropody Services
MR. D. DURHAM	Unit General Manager (Community)
MRS. A. RICHES	Senior Nurse (Information and Planning)

Redbridge Health Authority

MRS. I. ALLUM	Acting Senior Nurse (Community)
DR. R. BEAVER	Specialist in Community Medicine
MS H. SNOOKS	Information Systems Manager
MS P. SPENCER	Services Manager for the Community

Riverside Health Authority

MS M. GREENWOOD	Assistant General Manager, Children's and Community Services
MRS. J. MARTIN-HOOGEWERF	Community Administrator
MISS S. WHYATT	Senior Nurse Manager (Planning)

* denotes speaker

Tower Hamlets Health Authority

DR. F. READER	Senior Clinical Medical Officer
MS B. REDMOND	Health Visitor

King's Fund Representatives

MS P. BROWN	Development Worker
MS G. DALLEY	Development Worker
MS P. GORDON	Programme Coordinator
MS C. KING	Secretary
MS K.E. WINN	Project Officer