

# **The Burden on the Community**

**The epidemiology of mental illness  
A symposium**

**Introduced by Denis Hill**

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Ann Cartwright  
G Innes W M Miller G A Sharp  
W I N Kessel  
F M Martin  
P Sainsbury and Jacqueline Grad  
M Shepherd**

**Published for the Nuffield Provincial Hospitals Trust  
by the Oxford University Press**

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**Published for the Nuffield Provincial Hospitals Trust  
by the Oxford University Press 1962  
London New York Toronto**

*Oxford University Press, Amen House, London, E.C.4*

GLASGOW NEW YORK TORONTO MELBOURNE WELLINGTON

BOMBAY CALCUTTA MADRAS KARACHI KUALA LUMPUR

CAPE TOWN IBADAN NAIROBI ACCRA

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PRINTED IN GREAT BRITAIN BY THE WHITEFRIARS PRESS LTD.  
LONDON AND TONBRIDGE

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# Introduction

by

Professor Denis Hill

It has often been observed that those who have had responsibility for administering the affairs of medicine and for determining the priorities and needs of this or that field, particularly in the matter of research, tend to look too much, perhaps, to the mortality statistics to guide them in their thinking. Mental disease rarely kills and only occasionally shortens life. The contribution to total morbidity and to incapacity by mental illness is, however, a very large one. After the common cold and the so-called 'rheumatic' conditions, minor mental illness is the commonest reason for sickness and absenteeism from work. There is at present a wave of therapeutic enthusiasm and optimism in psychiatry. This is not the first time that it has happened in the history of the subject.

It now appears possible by the use of powerful pharmacological agents to shorten the period of total incapacity from psychotic illness and by changed attitudes to the significance of mental illness by the public and better social services, to return patients to their families much sooner than was thought desirable or possible fifteen years ago. However, while the period in hospital for all mental illness is being reduced and the total number of beds in mental hospitals at the end of each year shows a slight progressive fall, increasing numbers of patients are entering these hospitals and the re-admission rates are going up—it might be thought, alarmingly. We are not quite sure what we are doing—whether the prognosis is ultimately affected by these measures, whether the total load of suffering and incapacity of the community is reduced by them.

The Mental Health Act will increase the tempo of these new arrangements. Policies affecting the lives of many sick people and the families from which they come have been introduced on the basis of hypotheses which may well be correct but which have not been tested. It has seemed to many people that there is a danger

that with the use of the more powerful tranquilisers and with the more efficient social services, we shall be increasingly blinded to our really profound ignorance about what we are doing. A new empiricism seems to have evolved in psychiatry, in which the aim is the cure of the symptoms rather than the development of understanding of the illnesses which give rise to them, which should lead ultimately to the control and prevention of these illnesses. There has been practically no increase in knowledge about the ætiology and prevention of the common major or minor mental illnesses in the last three decades. The study of the individual patient in isolation from his social environment is no longer a practice which has any meaning. The acceptance of multifactor causation on the one hand, and the evidence that mental illness affects different sections of the population differentially on the other, has made it clear that only the techniques and methods of epidemiology could sort out these problems.

What is epidemiology about? It is in the first place a study of the aspects of disease which are a function of the patient's relationship to his environment, whether physical or social, and his reaction to it. It seeks to correlate variations in the manifestation of illness with differences in patients, physical or social conditions. Since communities show a different attack-rate of specific disorders, epidemiology attempts to measure the risk of illness and the distribution of illness within subgroups of the population. From this follows knowledge about the natural history of the disease in question, and from this knowledge clues may be thrown up which have ætiological significance. Epidemiology is therefore in the first place an observational science. As Professor D. D. Reid wrote in his important monograph: 'Once the natural history of the disease in a particular population has been established, the epidemiologist is concerned to devise measures of disease prevention or control and to assess their efficacy in practice. Successful prophylaxis achieved by modifying some essential cause is the ultimate test of the epidemiological approach; and a creditable series of such successes has made epidemiology the basic science in preventive medicine.'

The consequence of early attempts to apply epidemiological techniques to psychiatric problems, was to expose our ignorance in the clinical field. First, there was the realization that our clinical-descriptive criteria for diagnosis are extremely vague and that it is difficult to get agreement among psychiatrists about diagnostic



criteria. Common psychiatric words are subject to various meanings. Diagnosis is based often on a series of value-judgments made by clinicians and subject to variation with the social attitudes and psychological orientation of the psychiatrists themselves.

Secondly, there is the painful fact that we know very little about the natural history of the common major and minor mental illnesses. This is not unique to psychiatry. It is also particularly the case with all those conditions properly termed psychosomatic which commonly are labelled with a somatic diagnosis. Thirdly, attempts at incidence or prevalence studies have brought the realization that only a proportion of those suffering from symptoms may be identifiable as patients. Who becomes a patient and who does not? Unknown social factors must play the main part in this. Fourthly, there is more than a suggestion that the forms of treatment which patients receive may not be so much determined by the type of illness from which they suffer but by their social and economic status, of which at present social class differences are the best measurement. We have, then, only an awareness of the constellation of factors in the causation and prognosis of mental illness—some physical, some social and environmental, and some intrinsically personal to the patient himself. This situation has called for a new appraisal of our clinical methods, of the objects of our study and of what we are to study, and of what we are to do therapeutically.

It might be thought that the application of epidemiological methods to psychiatry has been slow, in view of the fact that several important studies had been made even before the war. The delays here may in part have been due to lack of opportunity. Social scientists have not been attracted in large numbers into medicine and, in this country, have not seen the security of permanent employment ahead of them. Research depends upon ideas, recruitment of able research workers, a career structure for the research workers, financial and moral backing and extended opportunities. Moreover, in this country communication between those in the social and biological sciences has, until recently, been noticeably lacking. All this is now changing, and it is particularly in the field of psychiatry and because of the needs of psychiatry that this is so.

The classification and the definitions of the major and minor mental illnesses were made fifty years ago, mainly as the result of work carried out on patients confined in large and repressive

mental hospitals, under conditions which do not obtain today. In so far as these definitions were arrived at by a process of computing the time courses of the illnesses against the main symptom groupings which patients exhibited, they are practically meaningless today. The fact that psychiatric nosology depended upon either subjective symptoms or behavioural phenomena, both of which vary with social and environmental stimuli, and a time course of an illness which was determined by social factors which no longer operate, has made suspect the very foundation of the subject.

Who is mentally ill and who is not? The lack of objective criteria of illness—such as the physical sciences have brought to the aid of internal medicine, is a serious handicap and psychology has not provided the necessary data. The ultimate goal of research is the discovery of causation, but before any ætiological hypotheses can be set up, it will be necessary to look again at the foundations of our subject. The criteria for diagnosis must be made explicit and reliable. This is the most urgent of the problems which the psychiatric epidemiologist must tackle. For, without doing so there will be no possibility of carrying out meaningful work in this field, no possibility of comparing results as between one part of an enquiry and another, as between two enquiries carried out at different places or at different times. Diagnosis cannot be based on a theoretical appraisal of an alleged genetic factor or upon a psychodynamic interpretation of pathogenesis, but must be directly related to what is describable in terms of the objective manifestations of illness. The words used must have accepted definitions, be non-controversial, and unambiguous. As the W.H.O. Expert Committee (1960) have pointed out: 'The most standardizable, countable and comparable units of observation in psychiatry appear to be symptoms, such as anxiety, depression, paranoid trends, excitement, delusions, hallucinations, and intellectual dullness'. But this is but a first step and constitutes the identification of raw data. The basic symptom data can further be organized into syndromes, which may then fall into one of the categories of standard classification, e.g. psychoneurosis, psychosis, psychosomatic disorder, etc. The third stage is reached when the syndromes can be identified as falling into *diagnostic entities* such as schizophrenia, manic-depressive psychosis, etc. It is important to maintain these three levels of definition and it can be seen that reliability of definition falls off as one passes from the first level of symptom

recognition to the third level of diagnostic entity. This will inevitably remain the case so long as psychiatric diagnostic categories remain dependent upon observation of behavioural phenomena. The biochemist's dream of providing a quantitative physical test to identify such behavioural differences may never be realized and certainly not in the foreseeable future. We need not be surprised by this, for the complex concepts with which psychiatry deals, such as schizophrenia, paranoid psychosis or intelligence are nothing but adjectival nouns to describe patterns of human behaviour—they are not entities or 'things', nor can they be considered as aspects of an individual's behaviour without relevance to the social environment in which he behaves. In this they differ as a class from those concepts which we build to describe the functional changes in the body consequent upon disease in one of its organs or systems.

There can be little doubt that those who are now undertaking in a determined and careful way to promote an understanding of mental illness by epidemiological methods, will for some time to come be concerned with matters of method and technique. Standardization of psychiatric diagnosis, the selection and definition of clinical terms, the methods by which data about individuals are gathered, the ascertainment of which are the relevant social variables to study—these are some of the apparently elementary but in fact complex and difficult problems which the epidemiologist must tackle. It was with these problems in mind that the Nuffield Provincial Hospitals Trust decided to call the conference of which this book is the result. The conference was not designed to report the results of research already carried out, but was designed to bring about an interchange of ideas between those who were working in this new field. It was primarily concerned with methods and technique.

The initiative in promoting epidemiological enquiry has come from a number of places and a number of organizations. We can identify certain landmarks in this country. The Medical Research Council set up its Social Psychiatry Unit under the direction of Sir Aubrey Lewis in 1948, and this unit has been most active in the epidemiological field. Since then a number of other units of the M.R.C. have started this type of study, and last year the M.R.C. created a new unit, headed by Professor Morris Carstairs, for research into the epidemiology of mental disorders. Following

a conference in London on the place of the social sciences in medicine held in 1957, a small international study-group was organized by the Medical Research Council and the Millbank Memorial Fund in 1958. From this came the very important and valuable monograph by Professor D. D. Reid, now published as a W.H.O. paper. The following year the M.R.C. set up a new advisory committee on the epidemiology of mental disorder. Support for research in this field has been forthcoming from nearly every voluntary organization in the medical field, but particularly from the Mental Health Research Fund and the Nuffield Provincial Hospitals Trust, who organized and promoted the conference of which this volume is the result.

The historical development of psychiatry as a scientific subject is characterized by a series of expectations of high promise doomed to disappointment. The first of these was the failure of the neuropathologists to demonstrate structural changes in the nervous system or the endocrine system in the major mental disorders or the psychoneuroses. The next was the failure of genetics to provide more than a partial answer to the problem of causation of these conditions. The third was the failure of psychopathology to provide data upon which either prevention or treatment of the psychoses could be based. While 'understanding' increased in all fields, therapeutic techniques based upon this 'understanding' have not followed as a consequence. Indeed our present highly successful pharmacological therapeutics are based upon pure empiricism and have not resulted from any knowledge which the basic studies of the mentally ill have provided. Neuropathology, psychopathology and clinical observation might not have been. But long before the time of Kræpelin it was evident that not only the incidence but also the forms of mental disorder vary with culture. Epidemics of 'dancing mania', of mass hysteria, are no longer encountered. The hysterical convulsive states, so common in the last century, are now a rarity. The common characteristics of schizophrenia: catatonic posturing, echolalia and echopraxia, described in the classical texts of fifty years ago are now disappearing from the clinical scene. Even the gross features of involutional melancholia, seen twenty years ago, of agitated preoccupation with sinfulness would seem less common. While hysterical conversion symptoms were common among soldiers in World War I, they were replaced by anxiety states in World War II. As Rennie (1957) has put it,

'With the vanishing of authoritarianism in hospital settings and the emergence of permissiveness and social expectations of appropriate behaviour, many of the more distressing features of the schizophrenic illness have simply disappeared'. But concurrently with this awareness has been the knowledge that psychosomatic disorders are undergoing a process of change. There is more than a suggestion that certain illnesses which in the last century were common in females (e.g. peptic ulcer, exophthalmic goitre and essential hypertension) have been appearing in an increasing proportion of males in the present century; while certain other diseases, e.g. diabetes, which were predominantly diseases of males in the last century, are now common among females. These changes, it is postulated, reflect changes in personality role of the sexes in our society in the last half century.

The study therefore of social organization, social roles and social attitudes as these bear upon illness have become an obvious necessity. Already we are aware that social class, age, marital status and social integration in the family or community setting are powerful determinants of whether or not a given individual shall become a patient, and if a patient how long he will require hospital care. But only the broad outlines are decipherable. Large prevalence and incidence studies carried out on a national or regional basis are of very little value from the point of view of aetiological study, but these are of great importance and value in helping those who have the task of planning our hospital and community mental health services. Only with such data available can these authorities plan a realistic but comprehensive service which will meet the needs of the community but not be unduly extravagant. The need for this is at present great, since the plan to close 50% of the mental hospital beds in the next 15 years has been accepted as official policy by the Ministry of Health. The changing trends in incidence and prevalence which no doubt will continue to occur must be monitored and evaluated, and indeed since it is now evident that what society does to its mental sick may, to a considerable extent, determine their fate as sick persons, the effects of this social process must also be determined.

Aetiological studies will no doubt follow, but no one should look for easy or quick answers in this difficult field. The practical results of epidemiological studies as they affect the administration of medicine will be sufficiently rewarding to offset impatience.

The intensive study of the individual as a psycho-physiological entity gives way to the broader view of him as a member of a unit, the smallest recognizable form of which is the family and the largest the community to which he relates. Knowledge of his interaction with the smaller and the larger units in which he exists will only come from what has been called in the United States 'multi-disciplinary research'. In such teams, the psychiatrist, the psychologist, and the social worker, have for colleagues the sociologist and the anthropologist. That such a development is taking place, this book and the conference which preceded it bear eloquent witness.

# I. Hospital and Outpatient Clinics:

## THE DESIGN OF A REPORTING SYSTEM AND THE DIFFICULTIES TO BE EXPECTED IN THE EXECUTION

by

Professor W. MALCOLM MILLAR, Dr. GEORGE INNES,  
Mr. GEOFFREY A. SHARP

With a grant from the Nuffield Provincial Hospitals Trust the authors have undertaken a programme of research in the area of the North Eastern Regional Hospital Board (Scotland), part of which is reported here. It should be stressed that the problems involved and their solution do not offer a blueprint from which generalization can be made, for many of the problems are particular to the North-East and many of the solutions were sought in the interaction of personalities of the research team and their colleagues in the field.

The North East Region of Scotland has a population of approximately 500,000. It comprises the Counties of Aberdeen, Moray, Banff and Kincardine and the Orkney and Shetland Islands. It is relatively stable, homogeneous and well-balanced. Geographically it is bounded by the sea in the north and east and by mountain ranges in the west. Aberdeen (189,000, university town, seaport and commercial centre of a wide agricultural region; major industries: distribution, fishing, granite, paper, engineering and woollen cloth) is the only large city from which radiate all lines of communication to the periphery. There are only three other large towns in the area which have populations in the region of 10,000.

### *PSYCHIATRIC SERVICES IN THE AREA*

The psychiatric services of North-East Scotland are probably best thought of as centred upon the *Ross Clinic* in Aberdeen which

opened in July 1959. This is an early treatment and neurosis unit of 38 beds with provision for some 20 day patients and for most of the outpatient services to the region. It is staffed by the University Department of Mental Health, and others appointed from the Regional Board. Most psychiatrists from other units in the region also attend on a sessional basis. Mental hospital facilities for patients from outside Aberdeen city are provided at *Aberdeen Royal Mental Hospital* (which is in Aberdeen and has 897 beds), while *Kingseat Hospital* (12 miles out of Aberdeen and having 810 beds) caters for patients from within the city. Catering mainly for a private patient group are two other units in the Aberdeen area: *House of Daviot* (130 beds) and *Wellwood Nursing Home* (20 beds). These are administered by the Royal Mental Hospital. *Bilbohall Hospital*, Elgin (220 beds) serves the north of the region and has tended to fill the role of a long stay geriatric psychiatric hospital. Apart from the outpatient service in Aberdeen itself there is a monthly peripheral clinic at Elgin organized from the Ross Clinic and the Physician Superintendent of Bilbohall Hospital has regular clinics at Banff and Elgin. There are also three-monthly clinics in the Orkney and Shetland Islands staffed from the Royal Mental and Kingseat Hospital respectively. There is one part-time consultant in the region who also works on a sessional basis in the Ross Clinic. Patients appear through any of these services and additionally there are emergency referrals from general hospitals in the area and also domiciliary consultations.

### AIM OF THE RESEARCH

The aim of the research under discussion is to make a social and psychiatric record of all 'new' patients appearing for psychiatric consultation from the North-East of Scotland. This area with its geographic boundaries and limited population drift provides a stable setting which makes it near an ideal for this type of continuing study.

### INITIAL PLANNING

#### 1. Definition of a 'Patient'

The first task in the design of any reporting system is to define the criteria for identifying an individual as a 'patient'. For the



purpose of this study a 'psychiatric patient' is defined as 'a person referred, from whatever source, to a psychiatrist'. 'A new patient' is one who has not been under psychiatric care during the year preceding referral. In making an incidence study of new patients in any disease group, one either includes all those patients who have had no previous illnesses, or those patients whose present illness differs from a previous one in symptomatology or in precipitating factors. The latter position was accepted for this psychiatric group and an arbitrary one year period seems a reasonable lapse of time to exclude repeated referrals for the same circumscribed condition. Patients under the age of 15 years were excluded because a reporting system, to be useful, must ask relevant questions and the problems of the child pose particular questions not readily comparable with those of the adult. Also in a child service, in this region in common with many others, an educational guidance service handles many a child who might easily be regarded as a psychiatric problem if he had been referred to a psychiatric centre. To decide which of these children constitute a true psychiatric problem and to have the educational psychologists' agreement leads to a semantic wrangle, which in the present state of definition is a fruitless, although ultimately necessary, pastime.

The survey is based on the population of the North-East Region of Scotland. Thought had to be given to qualification of residence in the region. In this it was accepted that anyone residing within the region at the time of referral, and who had not taken up residence for the specific purpose of psychiatric treatment should be included. Persons residing in H.M. Prisons and who normally reside outside the region were excluded.

There is little evidence that many patients enter the North-East for treatment but the reverse is not true. Just beyond the regional boundary in the North-West there is the Inverness Mental Hospital; similarly beyond the southern boundary is the Montrose Mental Hospital. By local arrangement it has been agreed that patients from the north or south extremes of the region may be referred to these two hospitals. Consequent on this arrangement a three-monthly visit is made to these units. To spread the net wider other psychiatric centres in Scotland will be contacted to reveal any patient from the region who has moved further afield to seek treatment.

## 2. *The Existing Organization*

Since the survey is concerned with new patients in the whole North-East Region, it is of great importance that there be adequate integration and co-operation within the psychiatric service. Several factors have produced a flexible administration without which a survey of this kind would meet with almost insuperable difficulties. The region is relatively small, the City of Aberdeen is a natural centre, the University, hospitals and local authorities are geographically and functionally close, and within the psychiatric service itself there is a system of multiple and rotating appointments of staff and a natural focus in the University Department of Mental Health based as it is on the Ross Clinic. Generally this administrative structure makes for a fairly uniform outlook on the part of all those working in the region and few can work in splendid isolation. It also facilitates concerted action when needed.

## 3. *Initial Contact with Those in the Field*

The next stage, and probably the most crucial in any widespread recording system involving many workers was initial contact with those in the field. The authors felt they had to sell themselves and their ideas from the earliest stages of planning. In this the team had advantages not accorded to many, in that both the field team had been working in the region before in some other capacity. Much of the gradually acquired knowledge of the regional ethos was therefore already available to them, and individual idiosyncrasies and relationships were also well known. Also the members of the research team were known to the group and social and professional relationships, for good or ill, already fairly well established. It is possible however that some difficulties may arise from their having had an earlier, different role in the field—since established roles are difficult to modify. However it was implicit in the early stages of planning that the authors attempt to evolve for themselves a definite role in their new relationship with colleagues.

A further advantage is that one of the team (G. I.) is a native of the region and consequently well versed in the population mores. The selling took the form of presenting a loosely organized plan of a programme to each individual, both in the office and less formally, and generally outlining the aims and possible methods

which might be employed. Thus a good deal of initial resistance to participation was dissipated by the absence of direction or coercion. Whilst this approach was far less clearly formulated than the description implies, the response to it was very favourable in that many participated far more fully than we had originally hoped and none failed to promise reasonable co-operation. This prior assessment of the degree of co-operation that could be expected (not entirely confirmed in the course of the research itself) allowed a more realistic methodology to be developed than would otherwise have been possible. The individual contact at this stage, but only in its formal aspect, was really restricted to the level of hospital superintendents, their deputies and to consultant staff.

### *DEVELOPMENT OF THE REPORTING SYSTEM*

The stage was now set for the development of the reporting system in detail. It seemed that several questions had to be asked, with alternatives presenting themselves in many cases.

#### *1. Hypotheses to be Tested*

Should the reporting system be aimed at testing specific hypotheses, and if so which of the conflicting ones should be selected? Or should the primary aim be the gathering of data on a number of variables? The resolution of these alternatives was found in a compromise. Items were selected for inclusion which allowed for testing of many common assumptions and speculations both in the literature and in the hunches of colleagues. The scope of this was widened to include a general social picture of each individual, bearing in mind the further limiting factor discussed below. Our prime concern was a general survey from which testable hypotheses could be derived at the conclusion of a limited period (one year) and later be subjected to more detailed testing. Our approach then is clearly a shot-gun one, aimed generally at the target with no immediate concern to hit the bull, mostly because we are not quite sure where the bull is.

#### *2. Problems of Interviewing*

It is expected that in one year's operation some 2,000 patients will be included in the survey. They will be seen initially at many

different sources, and a large proportion will have only one consultation. It had to be recognized that skilled interviewing personnel could not cover all centres and any ambitious programme of training existing workers could not cope with staff turnover, even if it were possible. Emphasis then turned to the need for a simple collecting programme, without sacrificing important data. The problem of interviewer reliability remained and, in a sense, still does.

There are, however, certain natural built-in checks of interviewer agreement which will become clear later. The simplification of the data-collecting method was tackled first by the design of the form, and later by a pilot run which helped erase some of the remaining problems. Talks to those workers who completed the data forms (or part of them), with frequent visiting, together with instruction sheets and a letter outlining the need and purpose of the programme were introduced with a view to aiding accuracy and encouraging co-operation. This has by no means solved all problems and many a breach has been filled and many remain, as will become clear.

### 3. *Choice of Record Forms*

Space for much social and psychiatric data exists in most psychiatric case-records, and in the Ross Clinic particularly, in this region, the record forms are very comprehensive. The problem then became one of whether to use the existing record forms, with possible modification, for the collection of the research data or to devise a separate system altogether. A survey of the existing records of previous years showed extreme variability of content. Secondly, the onus of data gathering rested too heavily on the psychiatrists. Additionally, there is no standard record system throughout the region and there remains the difficulty of transferring the data to the research pool. A system of separate data sheets was therefore devised. For simplicity separate forms were made for male and female patients—one blue the other pink—the front side of each concerned with personal social data, and the reverse side concerned with psychiatric aspects of the patient. One further form was designed to deal with the total treatment programme of the individual. These completed forms are extracted for filing in the research offices. For future planning of a possible permanent record system, for use in research, it is undoubtedly

better that this information can remain available permanently with the patient's own clinical record, but this must await the day when the questions to be asked are more clearly defined. Some system of carbon-backed sheets, which can be removed to a research pool whilst leaving a copy on an existing clinical record is obviously more suitable.

#### 4. *Method of Analysis*

Yet another consideration in constructing the details of the reporting system was the selection of a method of analysing the data obtained. The obvious choice seemed to lie between a I.B.M. punch card system and a Cope-Chat card hand-sorting system. This was resolved by considering the nature of our aim for the system, the available facilities and the data collecting personnel. Since no formal hypotheses were explicit and it is hoped to play hunches in evaluating data, any formal coding programme, such as is necessary with the I.B.M., is wasted. This rejection of the I.B.M. system was reinforced by the limited I.B.M. facilities at present in the region. In addition, the degree of error of an unskilled interviewer is heightened by working with a coded reply system.

Finally it is intended that the recording system should be improved in the light of experience and initial results, and a modified version introduced for later years. This leaves only the initial 2,000 records to be needle-sorted, which is a reasonable task, and any later project can be mounted more securely on the I.B.M. system.

#### 5. *Content of Record Forms*

From these considerations the present forms emerged (see Appendix A). In the realm of personal social data the concern is for information on the residence of the individual, with a view of subjecting this to some ecological analysis, and residential mobility within the previous few years. Occupation detail with knowledge of status shift—including comparison of parental and familial occupational status, also data on marital state; children; education; early social history and family pattern, previous general hospital admissions, persons referring and treating form the major area of enquiry. The reverse side of the initial form centres around

patient diagnosis, previous and familial psychiatric history, concomitant physical disease, suicidal bid, disposal for treatment and any patient refusal or other modification of initial treatment programme. The use of a system of diagnostic classification in the face of overwhelming evidence of reliability failure provided food for much thought. No system is available which obviates this problem. It was decided then to continue using a slightly modified International Classification with a forced choice of only one major diagnostic category per patient—the actual condition for which the patient was sent for treatment—but with a proviso that more categories could be evoked in a secondary role. We were less interested in the diagnosis as such than in the factors influencing the diagnosis chosen for a particular patient by a particular psychiatrist. It appeared that the aim of modifying or improving the reliability of the existing system could best be advanced in this pedestrian way. The additional form (see Appendix B) for the treatment programme of the patient traces his treatment course with the facilities and personnel involved down to the drugs prescribed and their duration.

### *THE WORKING OF THE REPORTING SYSTEM*

At the Ross Clinic it was hoped that the nursing staff would be responsible for interviewing each new outpatient on first appointment (some 25 per week) and collecting the personal social data, the form then being handed on to the psychiatrists for completion of the psychiatric data. It might be mentioned here that the authors believed that it would be of assistance to the psychiatrist to have the patient's personal social information before him—in keeping with the view that all research should aim, wherever possible, to provide some immediate service to colleagues. The motive of co-operation does not then depend entirely on some distant esoteric goal.

Whilst doing a pilot study the system of using nurses for data collecting in the Ross Clinic was relatively successful, but in the passage of time many cracks began to appear in the structure. The first duty of the nurse is to her patients in the clinic and the calls of these and the research project often created conflict. Since the Ross is used as a training unit for mental nurses there

is a considerable staff turnover and pressure on the permanent nursing staff. The trainee nurses sometimes acted as interviewers and although often experienced in general nursing, they proved to be of mixed competence for the sort of approach that the Nuffield group required. Their duration of stay was often insufficient for adequate training and selection. These factors—together with the need for a closer check generally on hospital records—eventually led to a decision to add to the research staff. A worker was employed as a records clerk, but in her selection the principal concern was to appoint someone who appeared to have the ability to interview patients. This move has proved invaluable, since besides getting consistent reporting on the majority of patients there is a person on the spot in charge of records, who can keep check of all problems related to the research. It has been found that having patients appear fifteen minutes before their consultation gives sufficient time for recording personal social information. In the mental hospitals the two senior nurses of each admission ward are responsible for completing the personal social data of the patient on admission. Since many patients are acutely disturbed on hospital entry a period of up to two weeks is allowed to lapse before the forms are submitted to a central pool. This allows for greater assurance of response validity and also allows for the nursing staff to add or check items with relatives on visiting. The research team visits each hospital at monthly intervals to check all records, make personal contact with the nursing staff, sort out any problems, and encourage co-operation. It was originally decided that for any patient who entered hospital and had also been seen at other centres previously—as occurs with the majority—the data would not be duplicated. However, in the desire for some double checking and reliability tests the duplication is now routine. This checking has been further extended with the help of the Health and Welfare Department of Aberdeen Town Council, who have agreed to complete forms, similar to the research ones, from data collected by the Duly Authorized Officers on all certified and many voluntary admissions. There are therefore in many cases three sets of information about one patient which will aid in assessing item reliability.

Patients seen by a psychiatrist as an emergency, either in general hospital or in his domicile, present a special problem. Most of these patients are acutely disturbed and the immediate pressure

on the psychiatrist is to formulate a diagnosis and to arrange for disposal. This is not generally a favourable atmosphere for recording the name of the patient's school, religion, etc. However, in devising the record form it was in the back of the authors' minds that it should be arranged in a way which they thought might facilitate a psychiatric interview by providing a fairly non-stressful introduction. The idea of any interview control is somewhat foreign to the general concept in psychiatry of a non-directive approach, but some psychiatrists have commented spontaneously that they do in fact find this controlled introduction useful. However it still remains somewhat burdensome to others. To help this the research team have not pressed for completed details of those patients transferred to other centres for treatment, as further details can be collected there. A check on all emergency patients in the first six months of the survey shows that in practice less than 5% of patients do not have complete details. Private practice in the region is undertaken by one consultant, who being already engaged part-time at the Ross Clinic, and consequently a participant in the inception of the system, agreed to supply the necessary data on all private consultations.

### *GENERAL CONSIDERATIONS*

In carrying out research which involves, in part, the questioning of the established psychiatric order and intra-psychiatrist agreement of treatment disposal and practice, there is a problem raised which is common to most investigations in this field. This is the possibility of threat to the group and to the individual—or more particularly the mechanism of defence which is employed. If this threat was overtly perceived and responded to the problem would be minimized, but, alas, even in psychiatry, insight is more easily taught than apprehended. It seems probable that this threat would be reduced if the observed also act as participants. Even the most optimistic, however, cannot doubt that some modification of existing practice is one inevitable result. The mere fact of having to select one diagnosis, which is not lost in the clinical case record, must make the psychiatrist more careful of his judgment. The disposal of the patient—knowing it to be followed-up—must cause an erring on the side of caution. Some of these factors can be roughly checked by comparison with previous years, but for the



main some unknown degree of practice modification has to be accepted, though not with equanimity.

The survey started on 1st March 1960, four months after the research staff were appointed. Many factors were operating here to determine what may appear to be a relatively short planning period. The planning of a project such as the present may become too introspective, with an undue proportion of the time available for research spent on the definition of terms and the like. Items such as diagnostic categories could have occupied the research team for many months, but it is unlikely that unanimity of opinion could be reached even at the end of that time. The alternative to prolonged planning is to launch, with all its shortcomings, a limited project, and use this as a practical aid in discovering problems and clarifying terms. Thus at the end of sixteen months the team will have achieved a modest piece of research and a clarification of many of the problems involved. It is realized, however, that this is a personal point of view. There is involved in this some pressure from clinical colleagues to see action and results, and since they are major participants their wishes cannot go completely unheeded—at least if these don't militate against sensible caution. The length of preparation was shortened too, by the advantage which accrued from initial personal contact with many experienced workers in the field, and the help they gave.

After six months' activity the recording system has settled to a fairly consistent pattern. Initial organizational and running difficulties are now past, and there remain minimal difficulties centred around persons and organizations which require the constant attention of the research team. These residual difficulties seem to be based partially on pressure of work in the case of the individual psychiatrist. Other difficulties seem dependent on the development of attitudes which do not necessarily bear any relationship to the degree of co-operation expressed at the beginning of the survey. It is of interest that in an organization these attitudes tend to permeate through the whole structure. The origin of these attitudes is speculative. Whether it be threat, failure of adequate communication, or carry-over of attitudes which exist in the regional system independent of the research project, remains in doubt. The practical consequences, however, are that in varying degrees one or two psychiatrists frequently fail to fill in their records on

time, one or two organizations may regularly not press for maximal detail in their recording. The research team are thus necessarily engaged in constant checking and some degree of pressure on the individuals concerned.

A method of designing a reporting system has been developed and some of the anticipated and experienced difficulties have been discussed. It is hoped that by this method detailed and uniform information will be obtained of patients from the North-East Region of Scotland who are seen by a psychiatrist in the year commencing 1st March 1960. Although the authors appear reasonably satisfied that most of the difficulties have been recognized and dealt with, as far as is possible, they realize that the real problems are probably those which exist and of which they are unaware.

(MALE)

Surname					Date		Record No.
Christian names					G.P.		
Age <input type="radio"/> Yrs		Place of Birth.....		Town <input type="radio"/>	Source of Referral		
D/B				Country <input type="radio"/>	Code <input type="radio"/>		
Nationality.....					Seen Initially by		
Both Parents born in N.E. Scotland					Dr. .... at		
					Ross Clinic <input type="radio"/>		
Present Address					Domicile <input type="radio"/>		
Number of changes of address in past 5 years <input type="radio"/>					Hospt. Emergency <input type="radio"/>		
State reason if 2 changes or more					Private Practice <input type="radio"/>		
Duration of Domicile in N.E. Scotland <input type="radio"/> Yrs					Other (Specify)		
Marital Status M. S. W. D. Sep. (Social) Sep. (Legal) Remarried					Religion (Specify)		
Occupation (Detail) .....					Self .....		
Any major change in past 5 years Yes <input type="radio"/> No <input type="radio"/>					Wife or Parents (if different)		
Specify					.....		
If Patient Married					Education		
Date of Marriage / /					Name of Senior School		
Wife's Present Age <input type="radio"/> Yrs					.....		
If Wife Deceased Age <input type="radio"/> Yrs Year <input type="radio"/>					Age at Leaving School		
Cause .....					Less than 12 yrs <input type="radio"/>		
Patient's age at marriage <input type="radio"/> Yrs					at 12-13 yrs <input type="radio"/>		
Wife's age at marriage <input type="radio"/> Yrs					at 14-15 yrs <input type="radio"/>		
Wife's Maiden Name .....					at 16 yrs <input type="radio"/>		
Wife's Premarital Occupation .....					at 17 years <input type="radio"/>		
Wife's Present Occupation.....					at 18 yrs or over <input type="radio"/>		
Full Time <input type="radio"/> Part Time <input type="radio"/>					.....		
Children (Order of seniority)					Further Education		
Name D/B Occupation M/S Death					Full Time (Specify) .....		
					.....		
					Apprenticeship <input type="radio"/>		
Total children living <input type="radio"/> Total born <input type="radio"/>					Accommodation Owner <input type="radio"/> Tenant <input type="radio"/> Sub-Tenant <input type="radio"/>		
Brothers and Sisters					Parents—Patient brought up by		
Name (M/N if married) Age Occup. M/S Death					Own Parents <input type="radio"/> Mother alone <input type="radio"/> Father alone <input type="radio"/> S/F <input type="radio"/>		
					S/M <input type="radio"/> Other Relatives <input type="radio"/> Adopted <input type="radio"/> Foster <input type="radio"/> Instit. <input type="radio"/>		
					Father Mother		
					Present Age <input type="radio"/> Yrs <input type="radio"/> Yrs		
					If Dead—age at death <input type="radio"/> Yrs <input type="radio"/> Yrs		
					Cause.....		
					Patient's age at death <input type="radio"/> Yrs <input type="radio"/> Yrs		
					Major Occupation (Father)		
					Previous Hospital Admissions (Other than Psychiatric)		
					Total <input type="radio"/>		
Position in Family <input type="radio"/>					Additional Notes		
					Completed by At		

TO BE COMPLETED BY PSYCHIATRIST

Diagnosis (Circle appropriate number)

1. Schizophrenia

2. Manic-depressive Reaction—Mania

3. Manic-depressive Reaction—Depression (Diagnosed in patients with lifelong cyclothymia or with history of several previous attacks)

4. Involutional melancholia (after age 55)

5. Paranoid States

6. Senile Psychosis

7. Pre-senile Psychosis

8. Psychosis with cerebral arteriosclerosis

9. Alcoholic Psychosis

10. Psychosis of other demonstrable aetiology

11. Other and unspecified psychoses

12. Anxiety State

13. Phobic State

14. Hysteria

15. Obsessive—compulsive reaction

16. Depressive reaction (e.g. within the setting of a neurosis: following specific stress: at menopause: associated with other illnesses)

17. Other Psychoneurotic disorders (Specify)
18. Psychopathic personality (Any long standing personality deviation as major problem, e.g. schizoid: paranoid: aggressive: anti-social but excluding those mentioned below)

19. Alcoholism

20. Other drug addiction (Specify)

21. Sexual deviation (Specify)

22. Psychosomatic Disorder (a) Skin  
(b) Other (Specify)

23. Anorexia Nervosa

24. Adolescent Maladjustment

25. Mental Deficiency

26. Epilepsy and other convulsive disorders

27. Cerebral Tumour, Trauma or other Neurological Disorders (Specify)

28. ? Pregnancy Termination—Recommended  
Not Recommended

29. If no definite Psychiatric diagnosis can be made (e.g. in Marital Problems) please give details here

30. Not Psychiatric

31. Uneventuated

Has suicidal attempt formed part of present illness ?

Yes

No

Are any physiological symptoms of the menopause present ?

Yes

No

If the Psychiatric disorder is associated with concomitant disease, please specify

Previous Psychiatric History  
Date

Family History of Mental Illness

Disposal

1. Hospital—Voluntary
2. Hospital—Certified
3. Ross Clinic—In-patient
4. „ „ Day-patient
5. Home—treatment under domiciliary service
6. „ for out-patient treatment
7. Diagnosed and advised
8. Nil Psychiatric

Hospital

1. Kingseat
2. Royal Mental
3. Daviot
4. Wellwood
5. Ladysbridge
6. Bilbohall
7. Other (Specify)

1. Did patient refuse all treatment ?

Yes

No

2. Was originally formulated treatment modified in any way to suit patient's circumstances or wishes ?  
If yes, please state why

Yes

No

APPENDIX B

CASE SUMMARY

TO BE COMPLETED FOR ALL PATIENTS ON CASE CLOSURE

Surname

Date First Seen / /

Date of Closure / /

Specify location(s) during treatment course  
(in chronological order)

Christian Names

Duration ☐ Wks.

No.  
Record No.

(a) ..... ☐

(b) ..... ☐

(c) ..... ☐

(d) ..... ☐

Duration  
(weeks)

Number of attendances at O.P. ☐

Number of changes of treating personnel ☐

Seen by Psychologist Yes ☐ No ☐

P.S.W. Participation Yes ☐ No ☐

TREATMENT REGIME

1. Diagnosed and advised ☐

2. Supportive psychotherapy ☐

3. Suggestion ☐

4. (a) Hypnotherapy ☐

(b) Failed hypnosis ☐

5. Intensive psychotherapy ☐

6. Group psychotherapy ☐

7. Family therapy ☐

8. Manipulation of social environment (Specify)  
.....  
.....

9. E.C.T. No. ....  
    Level of response to E.C.T.  
    (a) Good ☐

(b) Doubtful ☐

(c) Poor ☐

Duration (wks)

10. Drug Treatment (Specify)  
    (a) ..... ☐

(b) ..... ☐

(c) ..... ☐

(d) ..... ☐

(e) ..... ☐

11. Drug abreaction ☐

12. Prolonged narcosis ☐

13. Insulin therapy ☐

(a) Coma ☐

(b) Modified ☐

(c) Tonic ☐

14. Art therapy ☐

15. Occupational therapy ☐

16. Other (Specify)  
..... ☐

..... ☐

Duration (wks)

Did patient prematurely discontinue treatment? Yes ☐ No ☐

Did patient refuse any recommended regime? (Specify).....

PHYSICAL INVESTIGATION

State any Physical Investigation

Findings

COMMENTS

Signature of Psychiatrist.....

## II. Conducting a Psychiatric Survey in General Practice

by

Dr. W. I. N. KESSEL

The purpose of this paper is to outline the merits of conducting a survey of mental illness using the general practitioner as case-finder and to discuss some of the problems of method involved.

### *What a Prevalence Study Entails*

To estimate the prevalence of a condition in a population requires knowing the number of persons at risk and the number of cases of the condition existing among them.

Prevalence studies in general practice have readily available a clear and acceptable criterion of illness—going to the doctor; they are uniquely possible in this country because of the extent of the cover provided by the National Health Service. They stand between hospital-oriented studies wherein cases are identified only if they have been referred to a specialist and community studies in which, sick or well, everyone in a sample is screened.

Most epidemiological studies of mental illness made in this country have taken cases identified at hospital and, indeed, have used the fact of admission as the criterion of identification. This method of case-finding is especially valuable for the major psychiatric illnesses for which a period of inpatient care is usual. To rely, however, on the number of inpatients to provide an estimate of the extent of neurotic illness would clearly be absurd. Attendance at a psychiatric outpatient clinic, too, is limited to a selected minority group of neurotic patients and we do not know the principles which underlie this selection. Nevertheless, the criterion of going to see a psychiatrist is readily understood and outpatient data are potentially very useful. So far, however, there have been few figures from this source which can be related to a population of known size and for which diagnoses are available.

Community survey, the correct and conventional epidemiologi-

cal approach, has not been extensively used in mental illness research in this country. A difficulty which becomes especially great in the field of the neuroses is to achieve criteria for identifying a 'case'. Such criteria must be both easy to apply and reliable and in addition they should be generally acceptable as indicators of neurotic ill-health. Logan and Brooke (1957) reporting results of the Survey of Sickness remark: "There seems little doubt that the number of minor ailments reported varies directly with the intensity of questioning, and that, by spreading the net sufficiently wide, most people could be got to confess to some minor complaint." This must apply with special force in the field of the neuroses.

In studies in general practice the criterion denoting illness is the fact that the patient consults his doctor. There are varied types of illness, but the fact of consultation is the index of severity that defines a 'case'. The population at risk is the number of registered persons on the doctor's list.

Nearly everybody in the country is registered with a general practitioner. Gray and Cartwright (1953) found 97.7% of a random sample were registered with a general practitioner and of these all but 2% would use his services first, if ill. For practical purposes, then, the general practitioner is the doctor who first attends ill people. Further, though nothing is known about the 2-3% of persons not registered, and although such people may have rather more than their proper quota of mental illness if it is true that the mentally ill move about more, there is evidence that those *registered* persons who do not consult their practitioner are not by-passing him and obtaining medical or para-medical attention elsewhere; non-attenders appear to be genuinely more healthy than those who consult their doctors.

Perhaps the ideal survey combines all these methods of approach and records psychiatric cases detected simultaneously at each level of identification. This was done by Martin, Brotherston and Chave (1957) in a new housing estate and is currently being carried out by Chave in Harlow new town.

### *Choosing the General Practitioners*

This section deals with methods of obtaining practices within which to conduct the survey.

Because there is choice of doctor by patients or potential patients it cannot be assumed that the persons on a given doctor's

list are representative of the area from which they are drawn. If doctors volunteer to participate in the survey then it is unsafe to regard their practice populations as representative. Miss Cartwright discusses the method of sampling a population in two stages, first by taking representative areas and then a random selection of persons in each; however, if the first stage unit is made up of volunteer (hence unrepresentative) general practitioners, then no amount of random sampling of the second stage—his practice list—can correct any biases that accrue.

The ways in which doctor-selection may affect a population are devious and subtle. Women doctors attract women patients; where a doctor gets a reputation for having special interests or abilities this, too, can affect his list. A doctor who is especially good with children may find for this reason that his adult population is unduly weighted in respect of people aged 20–35. Practitioners who give considerable attention to their neurotic patients will tend to accumulate them. This is not only done by patients' recommendations but by differential 'selection out'. The very satisfied patient moving, say, a couple of miles away will keep her old doctor; the careless patient will change to someone more conveniently situated. The overall effect of such selection factors in the practice may not be very great. Gray and Cartwright found that 'about half the reasons informants gave for choosing their doctor suggested that they had little previous knowledge of him either directly or by hearsay' and 'it is estimated that the annual rate of changing doctors is 7 per 100 adults . . . movement of patient or doctor accounts for four-fifths of these changes. About 7 changes per 1,000 patients are due to dissatisfaction with their doctor or the treatment received.' However, if selection effects particularly the neurotic patients in the practice, then, small as it may be, it cannot be ignored.

Choice of practitioner may thus influence the survey result because of a peculiar distribution of illness among his practice population. Outweighing this in importance is the doctor's attitude towards psychiatry, psychiatrists, neurotic patients and the so-called psychosomatic group of illnesses if his clinical judgment is to play a part in case identification.

These factors militate against conducting an enquiry in only one doctor's practice or even in a single group practice. A group practice has, however, this advantage, that because there is a



choice of doctor within the practice there is less reason for patients to leave the list of the group as a whole; the factor of doctor-selection is therefore reduced. When working with a group practice it is almost always necessary that all the doctors co-operate because although a nominal number of persons is registered with each partner, it is generally impossible to delineate a population for any one practitioner separately.

An important decision to be made is whether to work entirely with 'volunteer' doctors or to attempt to obtain a representative sample of all the practitioners in the area.

Your volunteer will not be typical of all practitioners. He is likely to differ in the following respects: he will tend to be younger and keener, to have a smaller list than the average, to have special interests, to keep better records, and to be in a partnership rather than single-handed. Often he will have done some research of his own and may indeed have a higher qualification. Talking to him you may find he has a more inquisitive approach to his patients and his surgery premises are generally better than average.

There are various ways of obtaining volunteer doctors.

(1) You may choose friends of yours; they may or may not make good colleagues in a survey. In any case they may have more difficulty in refusing to take part than would strangers and consequently, therefore, the work they are undertaking may tax them, in point of the time involved, more than they can really afford. Beware, too, in approaching friends, of discussing the project more often with them than with strangers, so that they become atypical in their over-sophistication. They should know no more of, for instance, the principles underlying any classification used than do other participating doctors.

(2) You may make contact with practitioners who have a relationship with a particular hospital because they refer cases or attend clinical meetings there. Remember that these doctors, too, are not typical of the district; practitioners who attend clinical meetings have special clinical interests and there is a very wide variation in the psychiatric referring habits of different practitioners.

(3) You may approach doctors through a local medical society or the local B.M.A. division. Such an approach generally assures goodwill, but here there is a double selection factor: not all doctors are members and not all members will be willing to co-operate.

(4) One of the best approaches is through the College of General Practitioners. This body\* includes very many of the keenest general practitioners and maintains a research register, some 500 strong, of those who have expressed an interest in research in different branches of medicine, including psychiatry and epidemiology. Besides its central organization the college also has regional sections known as faculties and it may be more convenient to outline the research at a meeting of the local faculty. The College is very keen to help in research work and its members are very co-operative.

(5) It is always possible to increase the number of practitioners who take part by asking those reached in any of the above ways to suggest other doctors who might be interested. Particularly, for reasons that will be seen, they should be encouraged to enrol all the other partners if they are members of a group practice.

In any case you will first get in touch with the doctor by letter explaining fully what you are doing, what you want him to do and how much of his time it is likely to take. Follow this up by meeting him in his surgery. Regular visits during the course of the survey will keep up his interest and help deal with problems that arise while he is recording.

Many of these characteristics of the volunteer act to the advantage of the research for, when assessing the amount of psychiatric illness encountered by general practitioners, the statements of keen, inquisitive doctors with small lists and a special interest in the topic are more valuable than those of a less interested, over-worked doctor antagonistic to neurotics. Further, it is almost impossible to carry out any sort of survey research in a practice where the recording is incomplete. Almost insuperable barriers to research are set up unless the case notes are properly kept. Nevertheless, the biases introduced by working only with volunteers may be so great that an attempt has to be made either to avoid them or to measure their extent by comparison with a representative sample by obtaining the co-operation of a group of 'pressed men'. You will probably wish to do this on an area basis. If possible this should be the territory of a local executive council. These bodies conduct the administration of the general

\* Enquiries are best addressed to the Chairman of the Research Committee, The College of General Practitioners, 41 Cadogan Gardens, Sloane Square, London, S.W.3.

practitioner service. As the areas covered conform to local government areas this is generally convenient.

The chief officer is the clerk to the executive council; his co-operation, if enlisted, can be of invaluable help. Each council publishes a list of all doctors practising within its area or who have accepted patients resident within the area. These lists are kept up to date by amendments so that it is possible to obtain the names of all current practitioners. Information is also included to enable you to exclude those doctors who are only on the list because they look after a small special population, such as the nurses of a hospital. Lastly, from the lists you can determine whether each doctor practises single-handed or in partnership and, if so, with whom. You are then in a position to make contact either with all the practitioners in the area or of a selection of them. Remember that the council lists include only 'principals'; assistants and trainee assistants are not included. If you decide to select you may find it useful to stratify the sample so that it includes the right proportion of partnerships and single-handed practices, or of industrial, suburban or rural practices (the clerk will help you here), of men and women doctors, or of doctors who qualified before or since the end of the war. These are illustrations of some of the relevant variables that may affect the prevalence rates recorded.

Once the sample is made it is essential that you achieve the co-operation of all or very nearly all of its members; otherwise you have just obtained a different sample of volunteers. As with volunteers, personal contact is essential and a trip to the surgery for a discussion of the project is a very wise expedient. Incidentally one learns a great deal about the problems besetting general practitioners in the field of the neurotic illnesses by these visits.

The relative advantages and disadvantages of volunteers as against a representative sample may have to be weighed in the light of the aims of each particular survey.

### *Making Use of the Records and Sampling the Patients*

Having captured your doctors the next stage is to decide upon the patients to be studied. The research design will determine the desired size of the population at risk. The more practitioners participate the less the number required from each practice. Since the research is bound to encroach upon the practitioners' time this helps.

One of the first decisions to be made is whether or not to include children. Of all special groups the school population is the one most likely to receive medical care outside the National Health Service and even to be referred for child guidance without the G.P. knowing. Therefore inclusion of children presents special problems.

Before any sample can be made there must be an estimate of the practice population. Two figures can be obtained, one by asking the executive council and the other by counting the case records. The former figure is usually smaller than the latter and is also more likely to be correct; neither, however, will be entirely accurate.\* There is a turnover in London of something like 10% of the practice population each year, slightly less in the country. (This fact should be taken into account when determining the sample size: allow for wastage.) Inevitably, therefore, the records are slightly out of date and the general practitioner will hold cards for some patients for whose care he is no longer responsible. The number of these is probably not sufficiently important to warrant the attempt to weed out such persons before estimating the size of the whole practice but if you are taking for study, say, a 20% sample then it will be necessary to establish the probable existence of each person in the sample. According to the number deleted a correction factor can be applied to the whole list number.

Note that when a patient has remained for two years in a mental hospital he is automatically removed from the G.P.'s list so that chronic psychotics will be under-represented.

The sample for a prevalence study must be so constituted that *everybody on the list has an equal chance of being in the sample*. It is often tempting for a practitioner to sample or to count *illnesses* and say that X% of all the illnesses he encounters are emotional or to sample *consultations* and record that, in a series of 1,000 consultations, y were for emotional illness or even to refine this technique by considering only *first consultations*. These methods, however, do not yield prevalence rates, interesting as their results may be in indicating the distribution of a practitioner's work. The count in a prevalence study must be made from the number of persons at risk. Another source of error, therefore, is to consider only those patients who *consult* their doctor (in any period of a year between 70% and 75% of all persons registered make at

\* The national number of persons registered with a G.P. is, or until very recently was, more than 100% of all those entitled to register.

least one consultation). It is not correct to say that the prevalence of a condition is 20% if a fifth of the patients seen by the doctor suffer from it. The number of sufferers must be considered as a proportion of all those at risk, which includes non-attending persons as well as those who actually consult their doctor.

Let us consider how to draw up a sample of 500 persons from a practice population estimated at 2,800. This must be done by the research worker and not by the practitioner or his secretary.

Since a 20% sample will yield about 560 names the simplest procedure, involving no systematic error, is to select randomly a number from 1 to 5 and take this number case-note in the record system and every fifth one following. It is as well to budget for a few cases in excess of the required number in case the list size estimate proves wrong and to allow for deletions. Using this procedure one person should be able with practice to draw a sample of this size in one to two days.

Two features of this method merit attention. General practitioners keep their case records alphabetically but some make a slight departure from this, grouping those with the same surname and address together. Taking every fifth case-note will catch a certain number of pairs of people from the same family under the strict alphabetical system, but less if the grouping system is used. In either case there will be less instances of dual representation of a family than if the sample had been drawn from a table of random numbers, but this method is so laborious that the every  $n$ th system is preferable unless there are special reasons against it.

One other potential source of error should be mentioned. Supposing the 500th name in the sample is Yule. It might be tempting to stop there, 500 being the desired sample size, but this would be to omit Messrs. Zabeau, Zacharis, Zains, Zamet, Zapletal, Zbychorski, Zagzdryn, Zembashis, Zerdin, Ziegler, Ziman, Zimmern, Zitcer, Zondek, Zukowski and Zweig.\* It is obvious that these persons are not typical of a practice population in this country. Therefore their omission will bias your sample. It is essential to continue to take every fifth case-note to the end of the alphabet. If later you find it expedient to reduce the sample size then this should be done randomly from the whole sample.

As each person in the sample is chosen his name and address

\* These names were obtained by taking the 12th name in each column of Zs in the London telephone directory.

should be listed by the research worker and the case note tagged. This may be done by sticking a small coloured label on the envelope or by inserting into the envelope something which protrudes. If it is appropriate this can be the form that the practitioner will need to complete for the survey.

At the same time that the list is drawn up additional data can be extracted and it is appropriate here to consider what such data may be.

Case-notes for men are red, for women blue. On all case-note envelopes issued since the National Health Service began the following data are entered by the executive council:

Surname and Christian names

Address

Date of birth

National Registration Identity Number\*

Identifying initials of the Executive Council

The date that the case-note envelope was sent to the practitioner.

There are blank spaces for the practitioner to record changes of address and also for occupation and changes of this.

Patients who were registered under the old panel system do not have their National Registration Identity Number recorded nor, necessarily, an age check unless the practitioner has filled this in. If he has done so it is in the form: Age ..... years at date of first attendance, i.e. ...., 19..... Otherwise the information is the same. (If the age is not so recorded it may often be obtained by reference to a letter from hospital inside.)

Marital state is not entered. It can often be inferred from consideration of other family members and a strong clue is provided when a woman's surname has been altered. In doubtful cases the practitioner can usually tell you.

Thus, sex, age and marital state together with the length of time the person has been registered with this doctor under the N.H.S.† can be almost universally determined.

In some practices there already exists an age and sex index of

\* This may be very useful if it is ever necessary to trace the patient. See Laurence (1959), a mine of information on the subject of tracing patients.

† The date stamp indicates when the envelope was sent to the doctor. If it had first to be obtained from a previous doctor this may post-date the onset of registration by many months. The date thus gives a minimum period of registration. The executive council can, in cases of doubt, supply the exact date.

the practice. A method of compiling this has recently been described (M.R.C. Committee report 1960).

Information about occupation is patchy and even where a job is entered it may not be the current one. Furthermore the way the occupation is described seldom permits social classification.

The size of the family group registered with the particular practice can be determined by examining the case-notes of all those with the same name at the same address but Stein (1960) has shown that there exists a very sizeable number of families where all the members are not registered with the same doctor. Therefore the records themselves do not provide an accurate indication of family size.

Occupation, family size and any other social, demographic or non-clinical data required must be asked for directly from the patient or another member of his family who attends.

Where it happens that a particular datum—say the person's age—is lacking, it is a good idea to put a special extra slip into the case-note envelope to remind the G.P. to obtain this information when the patient next attends and it is wise to put such slips into his relatives' envelopes, too, in case one of them can supply the information.

The names on the sample should be compared with the list of persons registered with that practice kept by the executive council. If they are not on the council list the reason for this can usually be found fairly quickly by discussing the patient with the G.P. Generally they are people whom he knows to be dead or he has not seen for years. Unless he is sure of their existence and can back this up with evidence of their recent attendance they should be excluded from the sample. This is likely to result in a reduction of about 5% in the sample size.

The resultant persons constitute the final sample. It should be noted that only N.H.S. patients are included.

### *Identifying the Cases*

It will be assumed in this section that the prevalence is being sought of all illnesses which are either overtly neurotic or considered to have an important emotional element to them. If a more restricted survey is being planned then the problems of case-identification are simpler though still of the same type.

It will also be assumed that, in the first place, the general

practitioner will be carrying out the case identification himself: it is usually impracticable for the initial screening to be carried out by anyone else though there may of course be subsequent psychiatric examination of the identified cases. By working with general practitioners you are acknowledging that you have available the clinical judgment of a professional colleague upon which to base the finding of your survey. Furthermore this judgment is generally based on a long acquaintance with the subject and often his family, coupled with knowledge of his medical and social history and personal circumstances. Few surveyors possess these advantages. On the other hand the G.P. does not share your conception of the clinical limits of the condition in which you are interested. He is, so to speak, an uncalibrated instrument. There must, therefore, be a preliminary stage of discussion in which he is acquainted with the criteria you are adopting. This 'indoctrination' process, together with the mere alerting of the doctor to certain conditions, will alter the number of cases he detects, generally in the direction of increase. One always sees more of things one is looking for. Inculcating your ideas involves the further risk that according to the way in which you put them across you may subtly influence the final prevalence rate. The more you can adapt your criteria to fit in with the practitioners' usual diagnostic practices the less this effect will be.

Another concomitant of the effects of the practitioners' altering awareness is that before the survey starts there needs to be a preparatory 'run-in period' to stabilize the case-finding rate.

In any case you must expect not fully to achieve one desideratum of any system of case identification namely that it should be uniformly understood and be capable of uniform application. General practitioners, like everyone else, have preconceived ideas about neurotic and emotional illness and will interpret your system in the light of these prejudices. Thus a practitioner who believes that neurosis represents weakness will probably perceive and diagnose less emotional illness than one who zealously attends the psycho-analytically oriented seminars run by the Tavistock Clinic. It is therefore no good pooling their respective prevalence rates of 2% and 40%;\* the classificatory system must be capable of defining the respective clinical groups recognized by each.

\* Studies so far published span a range from 2% to 70%. Some of this is accounted for by differing modes of reporting results but much results from differences in practitioners' awareness of, and attitude to, psychiatric illness.



It must, further, do justice to the clinical material. No general practitioner could be expected to apply the psychiatric section of the International Classification of Diseases (I.C.D.) to the illnesses of his patients nor could any psychiatrist. This classification, important as it is for epidemiological purposes was designed to suit hospital material. It has been shown (Kessel, 1960) greatly to under-estimate psychiatric morbidity. The College of General Practitioners has produced its own classificatory system (Research Committee, Coll. Gen. Pract., 1959) and the psychiatric section of this is appended in a slightly abbreviated form.

1st level: 5 mental, psychoneurotic and personality disorders

2nd level: 51 psychoses

52 psychoneurotic disorders

53 other psychogenic illness

3rd level: 5101 schizophrenia

5102 manic-depressive psychosis

5103 senile psychosis

5104 organic psychosis

5105 other psychoses

5201 anxiety states without somatic symptoms

5202 anxiety states with somatic symptoms

5203 anxiety states with depression

5204 anxiety states with phobic symptoms

5205 hysterical reaction

5206 asthenic reaction

5207 other unspecified psychoneuroses including rare  
obsessional states

5301 amentia

5302 addictions

5303 psychopathic personality

5304 other psychiatric illness.

This classification has the great merit that general practitioners can apply it; it is admirably suited for a general morbidity survey but to my mind it shares a demerit with the I.C.D. in that the patient with a somatic *complaint* remains more likely to be classified under the appropriate bodily system than into this section. Code 5202 covers such cases but the whole tenor of the classification is none the less to code the worried, dyspeptic patient as '9403:

disorder of gastric function' and hence into the diseases of the digestive system.

This is one of the essential differences between the general practitioner's psychiatric patients and those of the psychiatrist. Only about 10% of the practitioner's *psychiatric* patients present with what may be termed psychological symptoms. The majority of the patients with neurotic illnesses (Pemberton (1949) showed that 94% of all the psychiatric illnesses encountered by the G.P. were neurotic) present with physical complaints. Moreover they expect somatic diagnoses and treatment. Dr. Shepherd and I have described how 'the general practitioner recognizes such patients in a number of ways: by their demeanour, by the way they describe their complaints, by eliminating pathological processes that might be responsible for these, by his knowledge, often extending over many years, of the patient, his family and his social stresses, and by the elaborate though not specially contrived psychiatric history which he obtains during this time. Although these disabilities must be classified formally as neuroses, the general practitioner sees them in three principal groups. First, there are the patients presenting psychological symptoms such as depression or fatigue; the spontaneity of the presentation of these symptoms should be stressed since with judicious (sometimes injudicious), questioning they can be elicited from most people. The second and largest group comprises a segment of those patients with somatic symptoms which the practitioner does not attribute to organic pathology; a psychogenic factor for the symptoms may or may not be obvious. Thirdly, the elaboration or protraction of recognized physical illness may indicate a psychiatric component.' (Kessel and Shepherd, awaiting publication.)

The emphasis on patients' complaints rather than formal diagnoses arose because making these is not a necessary part of everyday work in the surgery; with a satisfactory case-finding system, the practitioner should have to depart as little as possible from his usual practices. Therefore, although the system used should not ignore diagnoses when these are forthcoming, it should not compel the practitioner to diagnose when he would not.

One is constrained, too, by the need to take up as little of the G.P.'s time as possible. A practitioner may see upward of thirty people in a surgery and if a 20% sample has been taken this means that he may have to provide five or six sets of information twice

daily. Not every patient seen will of course be identified as a 'case' but even so the upper limit of time available per subject in the sample cannot be more than about three minutes with perhaps a little extra time to be spent on the identified cases. The information will almost certainly have to be recorded on a form and this always takes longer to complete than the designer believes. Information required must therefore be kept to the minimum that is absolutely necessary to satisfy the aims of the survey however interesting it may be to know something additional. It is essential that the form be completed at or immediately after the surgery consultation or the home visit. It should not be so time-consuming that the practitioner leaves it to do as evening homework.

The form should be designed so that social and demographic data can be filled in by the receptionist and it may be helpful to offer the doctor the money to pay for additional secretarial assistance. Some doctors, however, do not have clerical help and so social data has to be kept down to a minimum also.

From this discussion we can see that the information required falls into three parts:

- i Social and demographic.
- ii General medical.
- iii Psychological.

Name, (address), sex, year of birth and civil state can be entered in most cases by the person drawing the sample. Length of time registered can be included if desired. Occupation, if required, must be asked for from the subject, or if necessary, a family member. The question of whose occupation (subject or head of household) and the degree of detail required about it depends on the reason for needing it—for social classification or out of industrial interest. It is probable that little else in the way of social data can be obtained uniformly. The date of each consultation should be recorded.

General medical data are required for a variety of reasons chief of which is the light then thrown upon the differences in prevalence recorded in different practices. If to one doctor all cases of asthma, eczema, dysmenorrhœa, headache and dyspepsia are emotional in origin the reason for his prevalence rate of 40% will become apparent. For reasons already rehearsed some latitude must be allowed over the matter of diagnosis; nevertheless the material has

eventually to be codified and it is important therefore that something a little more specific than, say, 'pain in the neck' be noted. To this end a possible solution is to allow free choice of words in the section for diagnosis and then ask the doctor to ring the system of the body involved using the I.C.D. 17 systems. In this instance it would be '9, respiratory system' if it were due to tonsillitis or '8, circulatory system' if it were angina or '2, neoplasms' if it were caused by a carcinoma of the œsophagus, or '5, mental, psycho-neurotic and personality disorders' if the phrase was just being used colloquially. Although he may be unhappy about giving a specific diagnosis the practitioner can almost always indicate the system involved.

Patients often present multiple illnesses at one consultation. They may also have chronic ailments in addition to those for which they consult. A useful division, then, of the general medical information would be:

- (a) diagnosis of the principal condition determining the consultation.
- (b) diagnosis of any other condition dealt with at this consultation.
- (c) other conditions present: illnesses or physical handicaps or disabilities.

This information would have to be supplied for each subject in the sample. Next you need to know if any of the conditions for which you are searching is present, the practitioner already having been appraised of your criteria. Here, a simple overall screening question is indicated, such as: Is there a neurotic condition present?—Yes, No. If 'No' then that completes the form but in the minority of cases answered 'Yes' or '?' further specific information relating to classification of the psychiatric nature of the condition will be required.

The main headings of such a classification might run:

- Psychiatric illnesses proper:
1. Psychosis;
  2. Mental Deficiency;
  3. Dementia;
  4. Neurosis;
  5. Personality markedly abnormal.

, Psychological symptoms or abnormal behaviour (i.e. without a specific diagnosis).

Physical illnesses with a psychological component.

Somatic symptoms without an adequate physical basis and considered by the G.P. to be emotionally determined.

Other psychological problems.

Merely to indicate a classificatory category can often be frustrating to the practitioner who feels he has more information to offer; a blank section in which he gives an account of the case, *writing clearly*, is useful and enlightening.

With this information you have sufficient data to calculate a prevalence rate. This figure represents the number of cases existing at a given point or during a given period. It does not indicate the number of *new* cases that occur. For an inception rate\* we need to know, additionally, whether the condition leading to the identification of a case is 'new', 'fresh' (i.e. recently occurring after a remission from a previous spell) or 'longer lasting'. With the neuroses this is often extremely difficult to determine. There is also the problem of the intermittent flare-up of neurotic symptoms in a patient with a chronic personality abnormality. Then, too, the illness may be new to the doctor but not historically as related by the patient. There can be no simple solution to these problems and, if inception rates are required, arbitrary definitions must be laid down to suit the survey requirements.

#### *Some Additional Points in the Conduct of the Survey*

The practitioners having been arrayed, the samples of patients marshalled and the questions to be asked agreed upon, it is time to conduct a pilot survey. This should be carried out with different general practitioners from those in the survey proper and it should test the co-operativeness of the doctors, the sampling, the practicability of the form and the processing of the data. Ideally, it should run for as long as the main survey but this may not be feasible. It should however continue long enough to tell you how long the 'run-in' period for the main survey should be before the rates become stable.

When the lessons of the pilot survey have been learned, the 'indoctrination' of the practitioners can begin, followed by the acclimatization period. Then the survey can begin. How long should it be planned to run? Prevalence rates can refer to a point

\* For an extremely useful guide to the precise meaning of the terms used to express survey rates, see: Measurement of morbidity. General Register Office (1954), (*Studies on Medical and Population Subjects*, No. 8), London. H.M.S.O.

in time (i.e. the number of cases existing at a given moment) or to a period. It is usual to take a period of a year for this type of survey. A long period is in any case necessary since by definition one is reliant upon the patient's attendance before he can be identified. Also, we do not yet know if there is any seasonal variation in the prevalence of emotional illness. Another important consideration is that frequent attenders would be picked up disproportionately often in a short term survey and we know that neurotic patients are multiple attenders. Finally, if a year is taken, the prevalence figures become comparable with those from other studies. Although a year is a long time to burden a practitioner with extra recording, to obtain maximum value from the survey this is often necessary.

It will probably be necessary for the doctor to fill in the medical and psychological sections of the form anew for each new illness. In any case there must be scope for recording the total number of consultations and for him to record any change of views as to the psychological nature of the illnesses at any later time during the survey year. The form must therefore remain in the case-notes from beginning to end of the survey period unless the patient leaves the practice during that time.

#### *Additional Areas of Research*

Before ending this account of surveys in general practice I would like to mention two other allied types of research for which this field is eminently suitable.

The practice material may be used to obtain a series of patients suffering from a given non-psychiatric condition in which you are interested. These patients can then be screened by interview or questionnaire to determine the concomitance of neurosis or a certain personality-type. Because of the ubiquity of the National Health Service the G.P.'s clientele of such patients is far more unselected than the hospital clinic. Indeed by comparing the results with those for the same condition seen at hospital it would be possible to find out if what determines reference to hospital is indeed more the patient's mental make-up than his illness.

The second type of research makes the assumption that doctor-selection is unimportant in determining the relationship between a common symptom and a given personality. It uses the general practice list to obtain a sample of subjects of known age and sex.

In a current study, for instance, a random sample of women of menstrual age from several practices is being invited to answer, by postal questionnaire, questions about dysmenorrhœa and pre-menstrual tension and also to complete a personality inventory. The aim is to relate menstrual symptoms to personality.

To answer many such questions the terrain of general practice is not only ideal but practically untilled. With the growing emphasis on diagnosis and treatment outside the hospital the value of epidemiological studies in the surgery will increase. The G.P. is in the position of a medically qualified field worker and co-operation with him in research leads both the research worker and him to an increase of understanding of each other's problems to their mutual benefit and stimulus.

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# III. Interview Surveys

by

Miss ANN CARTWRIGHT

The first two papers have described some of the problems associated with estimating the prevalence of certain types of condition from hospital records and from the records of general practitioners. Another possibility is to attempt to obtain the relevant information directly from members of the population under consideration, by interviewing a sample of them in their own homes.

This approach also has its particular difficulties and disadvantages and its own attractions and advantages. On the credit side, it is possible to study both people who are ill and people who are not and to obtain comparable data about the two groups. This enables us to estimate the prevalence of certain conditions not merely in relation to such characteristics as age, sex and social class—for which population estimates can generally be made—but also in relation to any other factors, about which reliable information can be obtained at interviews. Secondly, with this approach it is possible to study conditions which may not be receiving medical attention. This may be particularly important in a field where the need for medical help is likely to be recognized by certain groups of individuals more reluctantly and at a later stage than by others.

One of the disadvantages of this method is that if the aim is to study individuals with an uncommon condition it may be necessary to make a large number of initial interviews to locate the necessary number of 'cases'. But the main difficulty associated with this method is again one of diagnosis or definition. In this type of inquiry the investigator has to formulate his criteria for diagnosis in terms of responses to particular questions. He is dependent on his ability to formulate meaningful questions, on the interviewers for posing the questions in the appropriate way, and recording the answers accurately, and on the responses of the people interviewed.

The topics discussed in this paper are (1) the selection of people to be interviewed (sampling), (2) the advantages and disadvantages



of structured and unstructured interviews, (3) interviewers and interviewing, (4) the design of questionnaires, (5) the formulation of questions, (6) particular problems related to memory errors, (7) further sources of bias, and (8) the difficulties of questioning people about ill-health.

### *Sampling*

Sometimes it will be necessary to interview all the members of a particular group or population. In this case there is no problem about selecting a sample. But when the population is large it will not be necessary to interview all its members; it will be adequate to select and interview a sample. From a sample it is possible not only to make estimates about the total population, but also to know the probable range of error of the estimate—if the sample is a random one. Random is used here as a precise statistical term which means that everyone in the population to be sampled has an equal chance of being included in the sample.

Whether the whole population is to be included in the survey or only a sample of it, the first problem is to identify all the members of the population. The two frequently used sampling frames in this country are the electoral register and the rating records. These have been described by Gray and Corlett (1950), who also discuss ways of obtaining samples from these records. The electoral register provides a reasonable method of obtaining samples of the civilian population aged 21 and over in polling districts and administrative areas. It is also possible, by reweighting, to use the electoral register to obtain a sample of households or housewives but the rating records, which are also kept by administrative areas, are more suitable for this.

When the survey is concerned only with adults of a particular age group, it will not be possible to select such a sample directly from the electoral register; but, if this is used to obtain an appropriately larger sample, people who are outside the age range to be covered can be eliminated after a preliminary interview, or possibly by a postal inquiry. Other problems arise when the population to be covered does not coincide with an administrative or geographical area. An obvious example of this is the population served by a particular hospital. Bailey (1956) has described a way of estimating the populations at risk and in theory it would be possible to design a sample by his method. It would mean using

different sampling fractions in different parts of the area and these would have to be determined from a study of patients' addresses in the hospital concerned and in other hospitals serving the area.

Selecting individuals 'at random' from the particular population does not imply that it should be done haphazardly; nor need it be done by such time-consuming procedures as pulling names out of a hat or using random numbers. If the names are listed in some order every  $n$ th name can be selected—provided there is no reason to believe that names are grouped in batches of  $n$  so that the  $n$ th one is always in a particular position within the batch. There is indeed some advantage to be gained in selecting the sample in this way when the names are listed in a relevant order, since it ensures that appropriate numbers are taken from each part of the list—it becomes a 'stratified' sample, but it is still a random one in the statistical sense. In a national survey it is not necessary to take every  $n$ th person or every  $n$ th household from the electoral or rating lists for the whole country. This would result in a sample which was widely dispersed and consequently very time-consuming and expensive to interview. It is possible to have what is known as a 'two-stage' sample design. First of all, a sample of administrative areas is selected and then a sample of individuals is chosen from within the selected areas. This process also is described by Gray and Corlett. The principle can be applied to other situations—for example to the selection of a sample of hospital patients in England and Wales. In such a case it would be appropriate to do this in two stages—first of all selecting a sample of hospitals and secondly sampling patients within the chosen hospitals.

The important point to take into account in designing a multi-stage sample is that if the first stage units (areas or hospitals) are chosen with probability proportionate to size (i.e. the number of second stage units—individuals or households or patients—which they contain) then equal numbers of second-stage units should be taken from each selected first-stage unit. If on the other hand each first-stage unit has an equal chance of being included—regardless of its size—the number of second-stage units selected from each chosen area or hospital should be proportional to the number of second-stage units in the area or hospital. With either of these methods the sample is random—each second-stage unit has an equal chance of being included in the sample—but the first method

has a number of practical advantages if the sizes of the first-stage units vary considerably.

In general the selection of the sample is the most straightforward part of this type of inquiry. There are a number of pitfalls awaiting the unwary amateur but statistical advice is not hard to obtain and in this sphere at any rate statisticians can generally provide practical, straightforward advice.

### *Structured and Unstructured Interviews*

Research interviews can vary considerably in the extent to which the form and content of the interview is determined beforehand. In relatively 'structured' interviews the questions are pre-determined and the extent to which the interviewer can probe and explore the answers given is restricted by definite rules, while in unstructured interviews the interviewer may have no list of questions but merely a series of topics to explore. It is a question of degree.

The chief advantages of relatively structured interviews are their comparability and the ease with which data obtained in this way can be classified and analysed. On the other hand, respondents vary in their ability to express their opinions and in their willingness to relate their experiences, and freedom to vary the approach and ask additional questions may sometimes elicit a more accurate account of facts and opinions in certain circumstances and in relation to certain topics.

Certain disadvantages of unstructured interviews are the increased likelihood of interviewer bias and the additional time and skill (and consequently expense) needed in both interviewing and interpreting the data. These points have all been discussed by Moser (1958).

In interviews concerned with mental health the possibility of interviewer involvement with the informant is considerable and may lead to frustration on either side. It may be less likely to arise in structured interviews because the situation is largely controlled from outside and both the interviewer and the informant have roles which are relatively well defined. This may lead to increased security on both sides. On the other hand tension may be created if the roles are not congenial. If the interviewer is anxious to provide therapy and the informant to receive it an unstructured interview will provide considerably more scope for this than a

structured one. But the provision of therapy is not the primary purpose of research interviewing.

A final additional argument in favour of structured interviews is the discipline they impose on the investigator. In drawing up a relatively structured questionnaire he will be compelled to determine the precise contents and limits of the study. This process is both salutary and stimulating, and a number of relatively unstructured exploratory interviews are often very helpful and illuminating at this initial preparatory stage.

In general the structured interview is a more efficient tool for research purposes than an unstructured one, but it may be an inappropriate technique in certain circumstances.

### *Interviewers and Interviewing*

In more cynical moments I hold that there are two requirements for research interviewers; first they must be prepared to work in the evening, and secondly their writing must be legible. In fact of course these are necessary but not sufficient qualifications, and the emphasis I place on them arises from a tendency for these essential attributes to be overlooked. If people are to be interviewed in their own homes and unless all the people in the sample are bed-ridden or unemployed, a considerable amount of interviewing will have to be done in the evening, and this must be acknowledged and accepted when recruiting interviewers. Apart from this essential ability to work in the right place at appropriate times, the main attributes of a research interviewer are:

- (1) An ability to establish appropriate relationships with the informants.
- (2) A thorough knowledge of the schedule and the instructions and a strict adherence to them.
- (3) An ability to listen carefully.
- (4) An ability to record responses accurately, fully and legibly.

Research interviewers need training and experience in the techniques of research interviewing. The extent and nature of the training that is necessary will vary with the complexity of the inquiry and the calibre and experience of the interviewers. Discussions about the principles of research, the general aims of the particular inquiry and the purpose of individual questions, and a

series of practice interviews 'in the field' both with and without direct supervision are essential components of such a training.

Whether interviewers need experience or qualifications in the particular field to be studied also depends on the nature and complexity of the inquiry. If interviewers who have no knowledge or experience of mental illness are to interview people who are mentally ill, this may cause distress to both patient and interviewer. Certainly if lay interviewers are used in this situation it is very important that there should be some recognized mechanism for dealing with cases whom the interviewer feels to be in need of help. If the interviewer knows there is someone to whom she can refer urgent cases she is likely to accept her research role more readily and will be less inclined to feel frustrated and anxious.

Another argument in favour of interviewers with some psychiatric experience is that they can diagnose the relevant cases. The main difficulties here would seem to be obtaining agreement on the procedure to be followed and the diagnostic criteria involved, the acceptance by the psychiatric interviewers of the disciplines involved in research interviewing, and the extra cost (psychiatrists are considerably more expensive than ordinary interviewers).

Whether social workers, psychiatric social workers or psychiatrists make good research interviewers depends on their interest in the research. Unless this is paramount to their desire to provide therapy they are likely to find the necessary discipline of research interviewing irksome and frustrating. Certainly thwarted therapists are unlikely to make good research interviewers.

The first task of an interviewer is to obtain the interested and willing co-operation of the subject. For this a simple, brief explanation of the purpose of the inquiry will generally suffice. Elaborate explanations are not usually needed, and if they are given will rarely be taken in or understood. Points that are important for the interviewer to get across are: (1) how the person was chosen; (2) who the interviewer is doing the inquiry for, and (3) information is treated confidentially. It is often helpful to leave a leaflet at the end of the interview which covers these points, and explains the purpose of the inquiry. People often do not take these points in at the time and it may in many cases be reassuring to have them written down and to be able to show them to a puzzled or inquiring relative.

One problem the interviewer must learn to contend with is the

informant who says he is too busy at the moment. It is no good persuading someone who is genuinely busy to be interviewed now 'because it only takes five minutes'. This is hardly ever true and it is not possible to have a satisfactory interview with someone who is anxious to get away. In these cases the interviewer should suggest calling back at a more convenient time, but she will need to use her judgment because sometimes people say they are busy as a way to avoid being interviewed at all.

Sometimes research interviewers of random samples of the population are referred to as 'door-step interviews'. I think this term is unfortunate as only occasionally will the informant not ask the interviewer into the house and then it is generally just because it has not occurred to them and the request, 'Do you mind if I come in as I have to write it all down?' is almost always granted.

The task which requires most skill and experience in research interviewing is probing. When and how to ask additional questions to illuminate inadequate answers is the most difficult aspect of an interviewer's work. If the probing is not done adequately the data will be very superficial and incomplete, but it is extremely easy to introduce a bias by the way in which it is done. Interviewers are less likely to make either of these errors if they are fully aware not only of the general aims of the survey but of the purpose behind each individual question.

### *The Design of Questionnaires*

An interview schedule has two functions. It is a guide to the interviewers, indicating the questions to be asked, the order in which to ask them and also sometimes the amount of detail required in the replies. Secondly it is a record of the answers—and also preferably—of the classification of these answers. This means that the layout of the schedule is important not only for ease in interviewing but also for the subsequent extraction and analysis of the data.

In relation to interviewing it is helpful for the interviewer if the questions are clearly distinguishable from the instructions and this can easily be done by using capital letters for the latter. Instructions on the schedule mostly concern which questions to ask or omit for which groups of people. Unless these instructions are clearly indicated and straightforward, interviewers will omit ques-

tions which should have been asked, or ask questions which should have been omitted, and it is disconcerting for the interviewer and off-putting for the informant if irrelevant or stupid questions are read out. The interviewer needs to concentrate on what the informant is saying and on recording the answer; and if she has to search for the next appropriate question it will lower her efficiency and may affect interview 'rapport'. Indenting is a useful device for indicating questions for particular groups of informants.

There are two main ways of recording answers—writing the informant's reply or indicating which of a number of pre-arranged groups the reply falls into. The obvious advantages of pre-classified groups are ease of analysis and speed of recording, but in addition they provide the interviewer with a clear indication of the detail in which the answer is required and therefore the additional probes which are needed. To take a simple example of a question which relates to when a particular event occurred. Replies will ultimately be classified in such groups as:

Within the last 7 days	.	.	.	.	1
1 week—less than 2 weeks ago	.	.	.	.	2
2 weeks—less than 1 month ago	.	.	.	.	3
1 month—less than 3 months ago	.	.	.	.	4
3 months—less than 6 months ago	.	.	.	.	5
6 months—less than 1 year ago	.	.	.	.	6
1 year—less than 5 years ago	.	.	.	.	7
5 years—less than 10 years ago	.	.	.	.	8
10 years or more ago	.	.	.	.	9

If this classification is recorded on the schedule the interviewer can see that an answer 'about fifteen years ago' is acceptable and she need not probe further, whereas if it is 'about a year ago' she will need to probe to ascertain whether it should be recorded in group 6 or 7.

There is a further advantage that pre-coded answers again impose a discipline on the investigator. He has to decide on the groups before the main inquiry starts—and he will do this on the basis of preliminary or pilot studies. If the answers are to be used quantitatively he will have to work out the groups sooner or later in any case, and doing it at this stage may help him to formulate his questions more precisely—and also to eliminate the unsatisfactory ones. Some types of classification are clearly too compli-

cated to be made at the time of interview. An example of this is occupation; it would be impracticable to record the Registrar General's Classification of Occupations on the schedule. In these cases the classification must be made afterwards from the information recorded at the interview. An interviewer is more likely to record adequate data for this purpose if she is conversant with the occupation code. In other instances too coding is more appropriately carried out at a later stage, but although it is easier for a coder than for an interviewer to spend time and thought on this operation the coder cannot obtain additional information. She has to rely solely on the data recorded by the interviewer. One advantage of recording the answers in full is that quotations from replies can provide useful illustrative material.

A possible danger of preclassified answers is that interviewers may sometimes by chance ring the wrong code. For important key questions it is often advisable to follow a 'Yes' or 'No' response by further questions which check the validity of the initial reply. This makes misunderstandings less likely and indicates errors in coding. An example of this type of check is:

Have you been to hospital as an inpatient in the last twelve months, that is, since last November 1959 ?

Yes	1
No	2

*IF YES (1)* How many times ?

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*IF NO (2)* Have you ever been to hospital as an inpatient ?

Yes	3
No	4

FOR EACH OCCASION

Month and Year of discharge	Hospital

*IF YES (3)* When was the last, most recent, time ?



*Formulating Questions*

The main aims in formulating questions are to construct them so that:

- (1) They are understood by the informant.
- (2) There is no ambiguity—the terms used are adequately defined.
- (3) There is no bias.
- (4) They are appropriate to the investigation.
- (5) They elicit relevant and valid replies.

The first point needs no explanation or elaboration. Ambiguity can arise through inadequate definition of the terms used or imprecise wording of the question. It most often arises if the questions are vague or of a general nature when in fact specific points are involved. (General questions are obviously useful in certain contexts but more so in relation to attitudes or opinions than to factual matters.) Sometimes words which are imprecise cannot be avoided but various devices can be employed to minimize possible differences in interpretation. These will be described when problems about questioning people about ill-health are discussed.

Bias can be introduced in various ways; by the order in which questions are asked, by the way in which they are worded, or by selecting the individuals to whom they are addressed. In relation to opinions general questions should normally be asked before specific ones. If the reverse is done answers to the general questions are likely to be affected because informants will have had their attention drawn to specific points.

Leading questions are obviously biasing—but it is also possible to introduce bias by presenting only one possibility to the informant. For instance, 'Do you think the school leaving age should be raised?' may provide a reasonable estimate of the proportion of people who think it should be, but will give no indication of the number who think it should be lowered.

An example of the introduction of bias by only putting a question to selected individuals can be found in the U.S.A. National Health Survey. At one point on this inquiry people were asked, 'At the present time do you have any ailments or conditions which have continued for a long time?' and only if the answer to this

was 'No' was this followed by the qualification 'even if they don't bother you all the time'. In this way a relatively healthy person could have been encouraged to report rather trivial conditions while a person who had reported a more serious illness did not receive this encouragement to report minor conditions.

The temptation when designing a questionnaire to include questions which are not directly relevant to the subject of the inquiry is often hard to resist, but investigators who succumb to this temptation are likely to produce very lengthy and unwieldy questionnaires. The fear of omitting vital questions is in some ways more terrifying than the apparent alternative of innumerable questions, but the latter does not necessarily preclude the former and may simply obscure the deficiencies. Each question should have a specific purpose.

Whether questions elicit relevant replies cannot be ascertained without a preliminary inquiry or pilot study which is essential in surveys of this nature. When dealing with a subject of any complexity I would make a plea for two preliminary studies; the first to consist of a series of exploratory interviews in which the main topics of the inquiry would be discussed, and the second to be a more structured study, a dress rehearsal for the main inquiry. The aims of the pre-pilot would be to ascertain whether people were able and willing to discuss the subject of the inquiry in a relevant and useful way, and to explore the vocabulary people use and the emphasis they place on the different aspects of the problem. The experience gained in this preliminary study should enable the investigator to construct an appropriate questionnaire for the pilot inquiry in which specific questions would be tried out and the replies used to construct pre-codes for the main study.

The validity of the responses depends not only on the questions being understood, unambiguous and without bias but on many other factors including the relationship between the interviewer and the informant and the personal characteristics of the informant. In many circumstances memory is an important factor affecting the validity of replies, and this problem is discussed next.

### *Memory*

Questions on the incidence and prevalence of conditions should always be related to a particular period of time, and the accuracy

of retrospective studies depends on memories which are often capricious and invariably selective. Whether or not an individual remembers a particular event and can place it within the correct period of time depends on such things as the nature of the event, the length of period he is asked to recall, the significance of both the event and the period for him, and the circumstances under which he is questioned. Although many of the factors governing memory errors are out of the control of the investigator, there are certain ways in which he can help the informant to recall events and to put them in their correct historical sequence. In particular the memory of informants can be influenced by the length of the period to be studied and by the delineation of the period.

The length of the period to be studied cannot be decided only by consideration of possible memory errors. It depends too on the amount of data which are likely to arise during different periods. It is impractical to question people about a period so short that memory errors are virtually eliminated, if at the same time only a very large sample would include enough occurrences of the case. The choice about the length of period is inevitably a compromise based on a number of conflicting factors, and the way in which the period is defined is an important one to consider here.

Many people do not know the date and if they are paid weekly may not be particularly aware of months. Pay days, weekends and public holidays are events which generally serve as land marks, and these are often supplemented by family occasions such as birthdays and weddings. If people are asked to recall events during a particular period it is likely to reduce confusion and memory errors if that period is a meaningful one for them. To define a period precisely by dates may seem important statistically, but if the period has no significance for the informants the inquiry has merely acquired an appearance of scientific precision which is unlikely to be justified by the quality of the data obtained. But to question people about events that had occurred 'since Xmas' may not be practical and is subject to other limitations. (For instance it would not be possible to interview all informants on the same day so that the period would vary in length according to the date on which the person was interviewed.) Some surveys have questioned people about calendar months, for example in the Survey of Sickness (Logan and Brooke, 1957) people were interviewed during the first fortnight of one month and asked about their

health in the two previous calendar months, but this approach has the additional disadvantage that events that occurred in the current month had to be excluded. The U.S.A. National Health Survey questioned people about their health 'last week or the week before'. Weeks are probably more meaningful to most people than months but one possible difficulty about using weeks is that 'last week' may mean something rather different on Mondays and Fridays.

One method of defining the period to be studied in a meaningful way is to interview informants at the beginning of the period and then at a later interview question them about the intervening period. An interview of that nature may not be a particularly memorable occasion from the informants viewpoint, but its subject matter can be related to the events which people are asked to recall at the second interview. Again the period is likely to vary slightly for different informants, but this difficulty is likely to be less acute when the period is defined as 'since Xmas'. Whether slight variation in the length of the period studied is important depends partly on the intended length—a variation of two or three days is considerably less important in a study of four weeks than in a study of one week.

Another method of reducing possible memory errors is to write to informants, and possibly ask them to keep diaries. In both these cases the initial contact can serve as a landmark in time for the start of the study period, and they may increase informants' awareness of the relevant events during the period. But these methods are open to the objection that they may influence the events that occur.

Unfortunately little systematic evidence has been collected about these various effects, and meanwhile decisions have to be made on an empirical basis. Further difficulties arise when an inquiry is concerned with incidence rather than prevalence rates. Apart from the problem of people's ability to recall when a particular condition first started, an illness may be differently described at the various stages of its development.

#### *Further Sources of Bias*

The introduction of bias in the formulation of questions has already been discussed; three further sources of bias are described here—failure to obtain interviews, differences between interviewers, and 'proxy' interviews.

The most frequent reasons for not obtaining interviews with a sample of individuals are removal, refusal, unavailability because of work, holidays or hospitalization and difficulties of communication such as deafness or senility. All these are potential sources of bias. There is no way of obtaining satisfactory substitutes for any of these groups. The investigator can only attempt to keep the numbers of failures as small as possible, and if data are available from other sources, to make some estimates of the possible influence of the losses. It is a particular problem in surveys in which the subject of the inquiry is related to the chance of failure to obtain an interview. In the field of mental health the individual who refuses to co-operate may be of particular interest.

Significant differences between interviewers working with similar samples are quite likely to arise with many questions, apart from straightforward factual ones. Such differences can be minimized by careful training and briefing and frequent discussions but are unlikely to be entirely eliminated. It is important that interviewers should be given relatively similar samples not only so that differences between them can be measured, but also to ensure that variations between different groups in the sample are not masked or created by such differences between interviewers.

The extent to which satisfactory information can be obtained from the relatives of the selected individuals again varies with the subject of the inquiry. This reduces the cost of the inquiry very considerably, but in surveys relating to physical health there is some evidence that data obtained from relatives are not comparable to those obtained from the subject. (Nisselson and Woolsey (1959), Enterline and Capt (1959), Cartwright (1957)).

### *Questioning People about Ill-health*

So far this paper has been concerned with general techniques of interview surveys, but this last section is devoted to the particular problem of questioning people about ill-health. For this purpose I am assuming that the investigator has rejected criteria of ill-health which depend solely on incapacity, consultation or medication and is anxious to obtain a measure of ill-health which does not depend on people's use of health services.

Whether a person reports an illness to an interviewer will be influenced by such things as his impressions of the purpose of the inquiry, his relationship with the interviewer, his attitude towards

ill-health, his ability to express his ideas, and, of course, on the actual questions asked. The investigator's aims in formulating questions to elicit illness are therefore first of all to indicate the level of ill-health with which the inquiry is concerned, and to stimulate people to think about their own health in these terms, and to overcome some of the difficulties which people experience in expressing their ideas about illness.

To achieve these aims it seems necessary to provide some check list either of diseases, symptoms or parts of the body, and these three possibilities are considered in turn.

One objection to listing selected diseases or symptoms is that it is likely to create a bias towards reporting the particular conditions that have been specified. This is a very real drawback and it would be difficult, extremely tedious and quite impractical to overcome it by listing all possible diseases. Another objection to listing diseases is that it means informants are being asked to diagnose their conditions.

The attraction of asking only about symptoms and not diseases is that pains, lumps, itches, etc., are things that an informant should be able to report relatively reliably, whereas when someone reports say, rheumatism, he is making a diagnosis which may or may not be justified. But this neat theoretical solution of asking only about symptoms does not necessarily work out in practice. Once a condition has been diagnosed and labelled—whoever this has been done by—people may cease to think of it in terms of the related symptoms, and, for example, may fail to recognize their rheumatism in a question about swollen and painful joints.

The other possibility of listing not diseases or symptoms but different parts of the body has been tried out to a certain extent on the Survey of Sickness, in which people were asked 'Have you anything wrong in the way of colds, catarrh, or nose or throat troubles, or anything wrong with your eyes, ears, teeth, headpains, chest, heart, stomach or indigestion, liver, kidneys, bowels or constipation, legs, feet, hands, arms or rheumatism, skin complaints, infectious diseases, or anything wrong with your nerves?' Women were also asked if they had anything wrong in the way of 'women's complaints'. Here so many actual conditions were included that the avoidance of bias by not asking about particular illnesses was lost. It is possible that if a 'pure' list of parts of the body were used, it would be found that people do not think in

those terms. A cold is not something wrong with their nose and throat but a cold. In addition a list consisting only of parts of the body would provide no indication of the level of ill-health in which the investigator was interested.

There is no ideal solution to these problems, and the questions asked on any particular inquiry will be a compromise based on the nature and aims of that study. For example, in a morbidity survey carried out by the Public Health Department of the London School of Hygiene, 41 conditions—both diseases and symptoms were listed. It was hoped that the list provided a fairly clear indication of the level of ill-health with which the inquiry was concerned and that it was reasonably comprehensive in that there were not many morbid conditions which were not generally associated with one or more of the items listed.

It seems appropriate to conclude this section with a quotation from Woolsey (1958) who says that the concept of morbidity in such inquiries 'is most accurately defined not by the original ideas of what constitutes morbidity, but by the whole mechanism that is set up to measure it'.

### *Conclusion*

This paper contains many obvious statements and platitudinous remarks, but the basic techniques of interview surveys are simple and straightforward. The survey investigator has no very impressive formulæ and elaborate techniques at his disposal. He uses statistical methods when designing his sample and when analysing his material, he may have a flash of intuition when formulating his hypothesis, but primarily he is concerned with minutia; with the lay-out of his questionnaire, with excluding imprecise, biased, ambiguous questions, with training and briefing his interviewers, and with classifying his material into well-defined, appropriate groups. He needs an infinite capacity for taking pains.

So, when this paper is a tedious consideration of detail, relieved only by generalizations which are blinding glimpses of the obvious, it is but a faithful reflection on much of the day-to-day work of the survey investigator.

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# IV. The Selection and Ascertainment of Relevant Social Variables

by

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To be dogmatic on this subject, to try to lay down a definitive set of precepts for the selection and ascertainment of social variables in epidemiological studies of psychiatric disorder, would be not merely futile but positively misleading. The range of social variables to be examined and the degree of detail in which they are to be recorded must necessarily vary from one study to another, depending on the general scope and purpose of the enquiry, on the specific hypotheses under investigation, and on the accessibility of the information. An attempt to estimate the total incidence or prevalence of psychiatric illness in a particular city, hospital catchment area or hospital board region, with no defined ætiological interests; a detailed study of class differences in the incidence of a particular disease; an analysis of social factors affecting the diagnostic or therapeutic judgments of psychiatrists or general practitioners: each of these, pitched as they are at different levels of sociological complexity, requires a distinctive set of social data to bring into relation to the clinical observations. In the large-scale prevalence study the primary aim is the accurate assessment of total frequency, and sociological theories are generally slender and subsidiary. The investigator's sociological interest, at this level of enquiry, may be limited to an open-minded curiosity; if any striking social class differences emerge, he assumes, they may provide a basis for some later investigation. The range of social variables included in such a study is likely to be narrow, and rightly so. The large scale on which cases must be collected and the degree of dependence on the collaboration of clinicians not closely identified with the research require a self-denying ordinance on the part of the investigator. Anyone who has been involved in

instituting a record system whose operation depends on the help of busy general practitioners or of registrars located at some distance from the centre of gravity of the investigation will be familiar with the risks of seeking an excess of data, especially when their clinical relevance is not immediately apparent. In the more intensive type of study, however, in which the broad social dimensions of the problems have previously been established and their precise significance or their implications are under examination, an altogether more elaborate and subtle pattern of social enquiry is required, and is often, by reason of the smaller scale of the study and its closer personal control, more reliably obtainable. But the particular social data to be ascertained must always depend upon the specific hypotheses to be investigated.

Most sociological analysis in the psychiatric field centres about the elusive concept of social class, and a discussion of class measurement in epidemiology may help to indicate the technical problems involved and to emphasize the importance of a clear formulation of research objectives. Many research workers have devised *ad hoc* scales for the assessment of class position, and two or three of these have won a wider measure of acceptance; the oldest established, however, and the most widely used in medical research is the classification associated with the General Register Office. To discuss social classification in medical research is inevitably to discuss the Registrar General's classes. This is not only because of their important role in official medico-statistical reports, but also because the hope of ensuring comparability commonly leads to their use in local or specialized epidemiological enquiries. Yet perhaps particularly since the publication of the most recent Decennial Supplement on Occupational Mortality, there have been many indications of uncertainty and dissatisfaction on the part of those who make use of social class concepts in medical research; these seem to arise mainly from the recognition that class variations in mortality and morbidity patterns are neither as clear-cut nor as readily explicable as they were previously assumed to have been. Some of the reasons for this may become apparent when we come to consider the problems of interpretation which any social classification of this kind may raise.

Questions about occupation have been asked at every Census since 1801, and the volume and quality of data on the national occupational structure has grown steadily. The 1951 Census

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reports deal with 588 occupations; these are grouped into status aggregates, occupation orders and especially into the five social classes so widely used in social and medical research. They are themselves built up by assignment from the G.R.O.'s magnificent collection of some 25,000 occupational titles. Once a precise description of the job has been recorded, allocation to an occupational unit and thence to a social class can follow automatically. Gathering the basic information, however, may involve some technical difficulties. Information obtained at second-hand from relatives may often be strikingly inadequate and should generally be treated with reserve until it can be checked; the problem here is less often one of misrepresentation than of ignorance, and may be quite serious when a large proportion of the research patients are married women. In other cases, where the information comes directly from the employed patient, an inadequate statement may result from the interviewer's failure to unravel the ambiguities of conventional occupational titles. It may then be impossible to distinguish from the records alone between levels of skill within an industry, between a professionally-qualified and a skilled manual worker, between the owner of a retail business, his manager and his assistants; the information so often provided by routine medical records to the effect that Mr. X is a miner, an engineer or a baker is quite useless for purposes of social classification. In any enquiry in which occupational data are to be given a serious place it is essential to lay down a clear set of rules for the recording of occupational titles, which should provide a guide to at least the more common ambiguities. Definite rules should also be laid down for classifying retired people. The fact of retirement may itself be of great interest to the research psychiatrist, but he is likely to feel the need to supplement it with a statement of previous occupation. It must be clear to the interviewer and the informant which occupation is required—the most recent, that of longest duration or that of highest status.

This reference to the occupational history of the retired may serve to remind us that movement between jobs, between industries and even between status levels is exceedingly common. The fact is no doubt obvious, yet it is surprisingly often overlooked or underestimated by professional people, who whatever their career patterns tend to remain doctors or university teachers. It becomes of practical importance in epidemiology because of the possible

influence of the disease under investigation on the patient's employment history and the consequent risk of confusing cause and effect. It has long been recognized that the mortality rates of certain occupations were grossly inflated by the movement into them of persons suffering from chronic or disabling illnesses; psychiatric epidemiology has of course its parallel problems. When, therefore, the investigator is concerned with the social context of a disorder whose natural history suggests the possibility of adverse effects on the level of skill or responsibility, it becomes unwise to rely on a simple statement of present or most recent occupation. Taking a full occupational history is a time-consuming process requiring detailed and skilful interviewing, and is not suitable for inclusion in enquiries carried out by remote control, but it may often be essential. Another check on the possible influence on social mobility of a given psychiatric illness may be obtained by comparing the occupational levels of patients and of their fathers. This again involves fairly obvious problems concerning the reliability of second-hand information—except where birth certificates are used—and the need to specify the relevant stage of the father's work history. To compare the present occupational levels of young adult patients with those of their fathers at the present time, for example, might easily lead to some confusion, not only because of the age differences between the generations but also because of characteristic class differences in career patterns. It is also essential in making estimates of social mobility to have some standard of comparison. Thus the class composition of the filial and the parental sample might each be compared with the composition of the general population—corrected for age and geographical region—as established at the appropriate census. Alternatively, indices of inter-generation mobility might be calculated and compared with corresponding indices for representative 'control' samples.

Let us assume however that our information concerning occupations is sufficiently clear and accurate to permit classification. We must then consider what is entailed by the normal practice of aggregating occupational units into such broader categories as social classes. At this stage, we are probably no longer concerned with the effects of occupations as such, as in studies of industrial hazards in the narrow sense, but rather with occupation as an indicator of general socio-economic position. Since however the

classes to which occupations are conventionally allocated are always, in greater or lesser degree, broad, heterogeneous and poorly documented, we rapidly run up against substantial problems of interpretation. What in fact do class differences mean? In the absence of an agreed and explicit specification of what social class differences entail—economically, culturally, psychologically—given patterns of social variation may appear susceptible to a variety of explanations; or alternatively—and this is the greater danger—the meaning of a social gradient may seem self-evident to the research worker, when in fact he is merely reading into the situation his own implicit and unverified assumptions concerning the dominant characteristics of social classes. It is of course always tempting to think of the past as somehow less complex than the present, but there do seem to be valid grounds for supposing that the pattern of social stratification which existed in Britain forty or fifty years ago was more clear-cut and less intricate than it has since become, and more reliably indicated by such simple instruments as the Registrar General's standard classification. This classification was first introduced in connection with the Census of 1911, though in a form which gave more weight to industrial and less to status considerations, and was modified in 1921 into the familiar five-fold classification which has since undergone few radical changes. Neither version was based on empirical enquiry, but we can probably reconstruct with a fair measure of accuracy the common-sense assumptions which were probably made by those who devised the scales—and were certainly made by their early users.

It seems likely that the medical statisticians of the first decades of the century were less directly interested in 'general standing in the community' than in its economic correlates and their medical consequences. The bearing of the poverty-complex on disease and death was manifest. Poverty led to malnutrition, to overcrowded and insanitary housing conditions which favoured the spread of infection, and to inadequate medical care. And poverty in its turn was closely associated with manual labour and with unskilled employment in particular. It was, in short, assumed—if this reconstruction is accurate—that the hierarchies of occupational status, of income, and of material living standards—housing, nutrition and so on—ran very closely parallel to one another. The assumption may be alternatively expressed in terms of a statistical

metaphor; that these variables were very highly correlated with one another, and in such a way that the pattern of their relationship could be expressed by a single general factor which it is convenient to designate social class. This view of the social framework can be validated by reference to any of the surveys of working-class conditions carried out before the first world war. No social investigator of this period seriously questioned the probable influence of adverse social circumstances upon health and efficiency, and the beginnings of official concern at the medical implications of poverty can be seen in the appointment of the Interdepartmental Committee on Physical Deterioration, the acceptance of responsibility by local authorities for the provision of personal health services, and the passage of the National Insurance Act of 1911. Systematic studies of social conditions between the wars suggest that in spite of a general reduction in the incidence of gross poverty, the pattern of correlation between the social variables which were generally taken to underlie occupational class differences did not change radically throughout this period. All the evidence goes to justify the assumption that class differences in mortality and morbidity during the nineteen-twenties and thirties could be interpreted primarily as economic differences.

But more recently a whole series of economic and technological trends have gained momentum and a number of new social and cultural factors have emerged which cannot be ignored by any student of social stratification and whose combined effect is to reduce the usefulness of earlier scales. Changes in the relative economic standing of different occupations; the great growth of white-collar employment; the breakdown of the sharp distinction between artisan and labourer through the emergence of a large class of semi-skilled machine operators, the dilution of the concept of skill and a great reduction in the size of the wholly unskilled class; changes in the characteristic avenues of social mobility and—at any rate in the past fifteen years—a significant increase in its sheer volume; the influence of the mass production of consumer goods and of the mass media of communication on the partial standardization of consumption and behaviour patterns—as a result of these and other movements our class structure is now considerably too complex to be accurately measured by any single simple scale.

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Given a system of stratification which is both complex and inconstant, our most useful move might be the abandonment of all searches for the 'essence' of stratification and the acceptance of a pluralistic approach. The most important empirical consequence of such a step would be that we decide precisely what our scales are intended to measure, ensure as best we can that they do this with a high degree of accuracy, and do not assume without considerable evidence that they measure any other variable. This means, for example, that to justify the continued use of occupational classifications we must decide what we want them to tell us. Are we in fact interested in 'standing in the community'? Or in levels of education? Or in incomes? Or in methods of child care? Or in values and attitudes? If, for example, we believe that social standing or prestige is likely to be an important variable in relation to our problem, we should find out by empirical enquiry what are its components, whether it can in fact be inferred from current classifications, and if not whether some alternative or modified scale would do so more effectively. Having validated or constructed such a scale, we might need to set up a series of additional and possibly simpler indices, educational, economic and so on. Ideally, these should be used independently; that is to say, the research worker should formulate specific hypotheses concerning the particular aspects of stratification which he believes—on the basis of clinical impressions, previous research findings or theoretical considerations—to be relevant to his problem and set out to measure them, rather than rely upon occupational class alone to give him an indirect glimpse. But this is a counsel of perfection. In practice, and especially at the level of national or regional enquiry, it is probable that we shall often have no social data other than occupation to relate to epidemiological material. It therefore becomes of some importance to study the distribution in the population of our other social and economic variables and to show in what ways they are related to occupation; with a substantial body of such data available, it would at least be possible to say with some confidence just what differences were and were not entailed by occupational class variations. Research into the social characteristics of selected occupational groups would not be outstandingly difficult to plan or to execute and could be of immense value to epidemiologists; it is best thought of, however, as a sociological exercise in its own right, and not merely as an adjunct to

epidemiological enquiries. Epidemiologists for their part might usefully consider ways and means of persuading the social sciences to undertake such studies.

If we accept the view implicit in these paragraphs that social stratification has a series of components the precise pattern of whose relationship must be separately established at different points in time, it follows, I think, that we must also reject as misconceived any argument that there is 'really' a fixed number of classes or strata. Claims of this kind—whether the number of classes postulated is two or more—involve either the imposition of a Procrustean definition from the outset or the withdrawal of enquiry when an arbitrary level of discrimination is reached. To see social stratification in terms of a series of dimensions, however, is to admit the probability that each dimension will need its own scale with a distinctive unit of measurement. This, of course, makes it more difficult to construct a series of discrete strata by means of neat horizontal sections. But even if the technical difficulties can be overcome, the number of strata which can be discriminated will not be predetermined by some absolute rule, but will depend upon the degree of refinement which is necessary to test the specific hypothesis under investigation. The tendency to think in terms of a fixed number of social classes is a special case of the more general and widespread practice of reification—a practice which has brought a good deal of confusion into socio-medical enquiry. The type of approach suggested here may prove to be less dogmatic, more flexible and in the long run more revealing.

The value of educational experience as a variable in epidemiological studies is limited by the nature of its distribution in the adult British population. Since only about one-quarter of a random sample of adults will have continued their formal education beyond the minimum school-leaving age, any simple educational classification is likely to place the great majority of the population in a single undifferentiated category. Even so, a breakdown by type of school attended or by school-leaving age may be of use in special circumstances—for example, in sub-classifying occupational groups of marginal social status, or in analysing discrepancies between present and parental occupational levels. (Needless to say, a study of the educationally favoured minority allows scope for exquisitely elaborate classifications.) One special use of educa-



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tional variables—within the limits mentioned—is in the social classification of women. As far as married women at any rate are concerned this classification is usually indirect; conventionally, married women are allocated to the class denoted by their husband's occupation. The wives of, say, professional men may form in some respects a more heterogeneous group than their husbands, and this variability may blur epidemiologically interesting differences between groups. Sub-classification by type of education—or by some parental criterion—may sometimes make possible significant regroupings.

Economic characteristics have certain obvious attractions for the research worker; they are objective and lend themselves readily to quantitative expression. But they are notoriously difficult to measure accurately and to interpret. Apart from the existence of a fairly common reluctance to disclose personal incomes, we need to take account of an impressive measure of ignorance on the part of wives, and even of problems of definition when information comes direct from the wage-earner. The interviewer and the informant must distinguish clearly between actual wages and wage rates, between gross income and the contents of the pay-packet after deductions, between basic pay, overtime, bonuses and so on. Incomes are not particularly easy to establish; because they fluctuate a good deal within occupations, and because they may be at similar levels in occupations which in all other respects are widely separated, they cannot rank as substitutes for occupational data. Information on incomes is probably worth collecting only when a specifically economic hypothesis is being examined—if one is interested in the economic consequences of long-term illness, for example. In studies of this kind it is important to take account of total family income and not merely that of the principal wage-earner, and also difficult to ignore patterns of expenditure. Studies of expenditure, however, like studies of nutrition, depend for their success on detailed and prolonged co-operation which often proves to be most difficult to secure in the most interesting cases. The investigator who does not propose to seek this level of co-operation is probably restricted to a few items of expenditure (e.g. rent) which recur regularly, are well known and do not fluctuate much. An alternative approach to expenditure which presents fewer technical problems and may be of at least as much sociological interest is in terms of 'crystallized' expenditure, or

possession of durable consumer goods. The ownership of a house, a motor car, a television set, a refrigerator, a washing machine—each item of information adds a little to our picture of an individual's style of life. The activities of market research workers, incidentally, guarantee a generous supply of up-to-date information on national trends. Information on ownership or tenancy of the place of residence can easily be extended to take account of size, type and rateable value.

The greater part of this paper has been concerned with the classification of individuals in terms of mainly personal attributes. But although the individual case is the normal unit of enquiry, it is worth adding a note on the possibilities of categorizing the larger units of which the individual forms part. The most obvious of these is the household. The mere size of the household, which may be an important variable in the epidemiological study of communicable disease, is probably of less interest in psychiatric enquiry than a qualitative classification of household composition. The psychiatric implications of social isolation have been widely discussed, but it may also be of value to distinguish between two-generation and three-generation households, between households in which the patient lives with his or her spouse and children, those in which the patient lives with his or her parents, and those made up of more remote kin or of non-kin. Certainly as far as the former psychiatric patient is concerned, there is evidence to show that the chances of emotional support or rejection, the level of expectation in respect of role-performance reposed in him, and even the risk of subsequent readmission are all influenced by the type of household to which he returns. Household and family, however, are not necessarily synonymous, and the recent growth of interest among urban sociologists in the extended family may have implications for studies in fields as diverse as attitudes to psychiatric illness and the emotional development of children. Here again we have a set of social variables whose full ascertainment demands subtle and painstaking investigation. It must be very rare for a full analysis of kinship networks to be carried out as a background to an epidemiological enquiry, and the epidemiologist without such support must probably accept as adequate a limited series of assessments. But even simple estimates of the proximity of relatives and the frequency of interaction can be extremely useful, and sufficient to modify, say, initial impressions

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of social isolation based on the facts of household composition alone.

It may often be desirable to grade or classify fairly large social units or aggregates—a neighbourhood, a community, the population of a particular general practice or of a hospital catchment area. Our purpose may be to secure summary social indices which can be directly related to medico-statistical indices, to consider the representativeness of a series of cases against the background of the population from which they are drawn, or to delineate the social context in which a particular medical institution functions. Probably the most useful estimates of the general socio-economic level of a group or district can be obtained by adding or averaging some of the individual indices previously mentioned—the percentage of employed men in a particular social class, the proportion of owner-occupied houses, the median rateable value of house property. Some of the ingenious indices which have been used in the past for estimating poverty levels of areas—the number of pawnshops, for example—may be of reduced value in the light of changing social circumstances. For larger population units, market research reports on the proportion of households with telephones, cars and so on may usefully be consulted. It is less easy to assess precisely the social characteristics of areas other than their socio-economic level and their degree of dependence on different industries. At a common-sense observational level we can set up a typology of areas such as the village, the slum, the peripheral housing estate, the established suburb, and recognize the likelihood that qualitative differences in the social life of each such area may have a wide range of psychiatric implications. There is a real need, however, for more subtle and complex classifications of areas which can be drawn upon in epidemiological studies; but for these to be really valid we should first need to see the development of ecological research on a substantial scale.

Two general themes have recurred in this paper and can perhaps bear a final restatement. Which social variables should be included in an enquiry, and in what detail they should be ascertained must to a large extent be decided separately for each enquiry, in the light of the research worker's objectives and resources; on balance, studies which embody well-defined hypotheses concerning supposedly causative influences are more likely to yield illuminating results than those which employ vague social variables with no

more specific motive than the hope that something may emerge. The second theme concerns the contribution which sociologists might make to epidemiology simply by doing general sociology, particularly studies of occupations, studies of family patterns and studies of communities. But social research workers are very few in number, and probably find it easier to obtain support for enquiries with more obviously practical implications. Perhaps one day we shall have the sustained financial and institutional support for the social sciences which can alone make long-range research planning possible.

# V. Clinical and Social Factors Relevant to Outcome

by

Dr. MICHAEL SHEPHERD

It is not always possible to define the boundaries which separate the clinical from the social aspects of disease. One useful line of demarcation runs through the methods of study: the problems which have been investigated traditionally with the techniques of the biological sciences of anatomy, physiology and pathology differ from those which have depended on the social sciences, particularly psychology, anthropology and sociology. Within all disciplines the focus of enquiry in the past has been on the antecedents of morbidity. Recently, however, there has been a quickening of interest in the consequences of established disease which can lend themselves more readily to the study of medico-social interaction. Clear illustrations come from conditions whose aetiology is indisputably exogenic. Surgical trauma constitutes an example which has attracted attention lately, especially in the United States where the socio-economic problems of return to work after surgery have become a matter of national concern (Dohan, F. C., Moss, N. H., 1958). Through a number of inquiries into the determinants of the period of convalescence following a surgical operation it has been demonstrated that in addition to the metabolic responses of the body, such diverse factors as surgical folklore, the patients' motivation and their cultural attitudes to work can all influence outcome. In the fields of prosthetics and sensory disability Meyerson has claimed that therapeutic prospects have improved since it has been appreciated that the patient's behaviour is dependent not so much on his physical characteristics as on 'the function of the situation in which the person must act' (Meyerson, L., 1958). The extension of this viewpoint to the whole field of after-care for physical disabilities has led to general agreement with Cooksey's proposition that 'medical, psychological,

social and economic factors affect the need for rehabilitation and the response to it' (Cooksey, F. S., 1960).

The position is more complex when social and psychological factors are suspected of contributing to the ætiology of physical disease, for their continued presence after the onset of illness could then be expected to prejudice its outcome. The putative relationship of occupation to coronary disease (Morris, J. N., 1959) or of psychosocial factors to rheumatoid arthritis (King, S. H., 1955) exemplify associations of this type, but proof still waits on a more satisfactory demonstration of the pathogenic nature of such factors than has proved possible so far. Meanwhile, there is evidence to suggest that the influence of social and psychological factors on the course of established physical illness can be studied profitably in their own right and without reference to their ætiological role. In an investigation of 1,630 inpatients in a general hospital Querido has reported on the forecasts made by clinicians and by an independent team consisting of a social worker and a psychiatrist who concentrated on 'the social and or psychic conditions which impair . . . well-being' (Querido, A., 1959). The patients were followed up for six months and it was found that irrespective of the physical diagnosis recovery occurred with significantly less frequency among the 'distressed' patients even though the nature of their distress did not appear to be specific. Further, the predictions of recovery made by the team were significantly more accurate than those which were based on clinical considerations alone. The clinical value of this work would be greater if it were refined in relation to individual disorders (Gainsborough, H., Slater, E. T. O., 1946) but our own preliminary findings with selected conditions are less clear-cut.

The place of psychosocial factors in the background and outcome of the major psychiatric disorders is widely recognized; it is functionally acknowledged by the empirical but indispensable role of the psychiatric social worker in the management of these conditions. In theory, the interplay of social and clinical factors on the course of psychiatric illness can be studied along similar lines to those which obtain in physical disease; in practice, the exercise often proves to be most fruitful when the diagnostic concepts are most sharply defined and the social issues are least obscure. Thus the outcome of an organic dementia may obviously depend as much on the patient's socio-economic status and the

tolerance of his relatives as on the degree of disability. The application of more sophisticated sociological concepts to psychiatric illness is in its early stages (Clausen, J. A., 1959). Most of this work has been concerned with ætiology but its relevance to outcome is clearly demonstrated in the sphere of mental sub-normality where the ease of case-identification and the subject's contact with social agencies have facilitated several long-term follow-up studies over many years. On the basis of these results it has been noted that the mentally sub-normal do better than might be suggested by the medico-social evidence covering their early years (Charles, D. C., 1953; National Committee for Mental Hygiene, 1933). Among the factors which might contribute to these findings Stein and Susser have recently selected and studied certain features of the family group (Stein, Z., Susser, M., 1960). Drawing on social and anthropological theory these workers have classified families into 'functioning', 'deviant' and 'dysmorphic' units according to their ability to provide, first, 'a set of enduring human relationships' and, secondly, 'basic standards of care for the children'. In a sample of children ascertained as educationally sub-normal and later examined in early adult life they were able to demonstrate how closely their family groupings could be related to outcome in terms of domestic stability, employment record, contacts with the law and admissions to institutions. They have suggested also that seeming increments of intelligence among defective subjects without brain injury may be related to familial sub-cultures classified by occupational and educational criteria.

The functional psychoses raise problems of their own. The numerous follow-up studies on these conditions have for the most part been conducted within the Kraepelinian framework and have tended to incorporate outcome as an axis for diagnostic classification. The authors of a recent study have put the matter squarely: 'as long as the ætiology and pathogenesis of the schizophrenic disorders are unknown the diagnosis and differential diagnosis of schizophrenia must be based upon an analysis of the clinical symptoms and an evaluation of the outcome of the disease' (Holmboe, R., Astrup, C., 1957). Accordingly, the aim of most of these inquiries has been the analysis of clinical data which might facilitate and improve the 'Richtungsprognose' of the older clinicians. Outcome has been defined in several ways, including the length of illness, the recurrence of attacks, the presence or

absence of defect states and the chances of acquiring an hereditary disorder. These questions have been related primarily to such clinical features as abruptness of onset, the occurrence of particular symptoms, the pre-morbid personality and the body-build. By contrast, social factors have been so neglected in this universe of studies that Langfeldt has concluded very recently that 'nothing of much significance has been stated as to the influence of psychological and social factors on the course of schizophrenia' (Langfeldt, G., 1959).

But however firmly clinical investigators have inclined to this view they have been unable to sustain it when considering the problems of therapy. The treatment of the functional psychoses has necessitated an interest in psychosocial factors from two standpoints. The first has been the direct influence of these factors on the outcome of the disease. In this field the careful studies of the M.R.C. Social Psychiatry Unit into the effects of artificial incentives (Topping, G. G., O'Connor, N., 1960), hospital workshops (Carstairs, G. M., O'Connor, N., Rawnsley, K., 1956), industrial rehabilitation centres (Wing, J. K., 1960) and domestic conditions (Brown, G. W., 1959) on the course of chronic schizophrenia may be cited as illustrations of its director's maxim that 'rehabilitation is treatment from the social point of view' (Lewis, A., 1956).

The other aspect of therapeutics which has implicated social factors is the need to develop criteria for the evaluation of treatment. Explicitly or implicitly clinicians have been compelled to pay regard to the social dimension in describing the outcome of the functional psychoses. Many psychiatrists have been content with imprecise yardsticks like 'social recovery' or 'social remission'. Most of the attempts to refine such criteria have been related principally to schizophrenia though, as Lundquist has emphasized, the social consequences of the manic depressive psychoses also repay attention (Lundquist, G., 1945). Twenty years ago Guttmann, Mayer-Gross and Slater proposed a scale of responses to therapy which passed from 'total recovery' to 'social recovery', 'social defect', 'family invalidism' and 'hospital invalidism' (Guttmann, E., Mayer-Gross, W., Slater, E. T. O., 1939). In this country these criteria have been used unchanged by other workers (Leiberman, D. M., Hönig, J., Auerbach, I., 1957). Elsewhere authorities like Delay accept a triple standard of



'hospital improvement', 'social improvement' and 'complete remission of symptoms' (Delay, J., Deniker, P., Ropert, R., 1959); Bleuler sub-divides both schizophrenic deterioration and recovery into 'social' and 'complete' (Bleuler, M., 1955); and Max Müller has suggested that a full *restitutio ad integrum* could be regarded as no more than 'a good social remission' (Müller, M., 1949).

Our own interest in these factors some years ago prompted a study of 126 patients who had suffered from acute schizophrenic illnesses for which they had been treated by deep insulin coma therapy (Shepherd, M., 1959). In following up these patients for five years we were concerned primarily to study clinical and social indices of outcome and the relationships between them. In brief, we found that the presence of the major schizophrenic phenomena and a long stay in hospital went closely with the patients' dependence on external support, a poor work-record and an unsatisfactory set of relatives' attitudes. We also found that only one clinical symptom, deterioration of affect, was associated unequivocally with a poor medico-social outcome. On the other hand, any symptoms or behaviour which were considered embarrassing or dangerous affected the outcome adversely, partly by increasing the time spent in hospital, partly by dissuading relatives from accepting responsibility.

We also collected data bearing on the social mobility of these patients and their parents, noting that there was an inter-generational decline when the parents belonged to social classes 1 and 2 but not when they were placed in social classes 4 or 5. Observations of this type, as Firth has pointed out, indicate where to look for further information but do not tell us what to look for (Firth, R., 1958). In a recent study of the bearing of social class on prognosis in schizophrenia Cooper has examined the question in more detail (Cooper, A. B., 1961). Finding that patients from the upper social classes enjoyed a more favourable outcome than those from the lower social groups he studied the social histories of 192 male schizophrenics after their first stay in hospital. Although the patients' clinical condition at discharge was unrelated to social status, their subsequent occupational histories differed significantly by social class. Cooper's results support the view that the higher the patient's original social status the better was his chance of maintaining it. They also show that a majority of patients who were unable to maintain their previous occupational level were

unable to work at all. The trend towards downward social mobility was most marked in the lower social groups but was insufficient to account for the observed social gradient and on the basis of his data Cooper has suggested that the differential outcome is linked most closely to the increased socio-economic stresses which confront those patients who are less cushioned in the economic struggle and who have fewer skills on which to fall back.

Occupational adaptation has also figured prominently among the follow-up studies of patients suffering from the neuroses and personality disorders (Lewis, A., 1943; Ernst, K., 1959). Clinical practice shows this group of conditions to be so frequently embedded in, and often dependent on, a matrix of social and inter-personal disturbance that our lack of precise knowledge about the influence of psychosocial factors on outcome constitutes a major challenge to future investigators. One of the principal obstacles in the way of adequate studies has been the practical problem of tracing groups of people who are notoriously elusive. For this reason captive populations, such as military personnel, tend to provide opportunities which remain attractive despite their obvious limitations (Guttman, E., Thomas, E. L., 1946). Perhaps the most striking demonstration of a successfully prosecuted study of this type has been provided by the five-year follow-up of 1,475 randomly selected American soldiers in world war II, with a control group of several hundred enlisted men (Brill, N. Q., Beebe, G. W., 1955). It emerged that, contrary to expectation, the general trend towards improvement among the men who had been discharged with a neurotic disability was related to their subsequent social circumstances rather than to their military experiences, the degree of disability or the treatment received. Their findings led the authors of the study towards a detailed consideration of the men's socio-economic milieu and away from the niceties of their individual psychology. This trend has become increasingly pronounced in comparable civilian investigations, where the spur has been chiefly on interest in the evaluation of psychotherapy. For this purpose Miles *et al.* have argued that the rounded picture must include not only clinical symptoms but a separate assessment of social adjustment in terms of occupational record, inter-personal relations, marital and sexual harmony (Miles, M. H. W., Barrabee, E. L., Finesinger, J. E., 1951). Very few workers have succeeded in adopting this approach so far but its potential value was demon-

strated by one of our follow-up studies of alcoholics, most of whom were suffering from neurotic or personality disorders of some kind (Shepherd, M., 1957). Here a prognostic formulation in terms of particular symptoms—in this case consumption of alcohol—carried less meaning than one which took the patient's functional capacity into account. Our profile of the patient with a favourable outcome, for example, was as follows: 'an intermittent drinker of good previous personality, with a satisfactory work-record, with close personal ties to at least some one person, married, seeking help for the first time, rating 1 for social stability, anxious to accept the aid of disulfuram and Alcoholics Anonymous'. In this composite picture, made up of only those items which were related to outcome, the significance of social features is evident.

A prime methodological defect in the great majority of studies bearing on the outcome of neurosis has been their dependence on the hospital patient. Since only a small proportion of these patients may be referred to hospital other techniques must be developed if more representative groups are to be examined. The Scandinavian workers have, for example, taken advantage of their circumscribed communities and their admirable population-statistics. In this country the general practitioners offer a promising lead. Whatever the method employed, however, it is now apparent that in the study of minor psychiatric illnesses in the community clinicians will require the help of their colleagues from the social sciences to study the environment in which these patients live and through which they often express their symptoms. From collaborative studies like those in which Dr. K. Rawnsley and Dr. J. B. Loudon are engaged at present we can hope to acquire a better understanding of these conditions in terms of Ryle's distinction between the natural history of disease in man and the natural history of man in disease.

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# VI. Evaluation of Treatment and Services

by

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The problems of evaluating treatment and services can be usefully presented by describing the appraisal of the Chichester and District Mental Health Service now being done by the Medical Research Council's Clinical Psychiatry Research Unit. We would, however, like to begin by discussing those aspects of any service which might be examined and then describe which of these we decided to evaluate and the reasons for our choice. Next we want to describe in some detail the methods we are using and some of our preliminary findings, in the hope that this concrete example of an attempt to evaluate a service will stimulate criticism and provide a vantage point from which to examine the problems entailed.

There are many possible aspects of a mental health service that might be considered. The evaluation of each of them will be necessary to any over-all assessment; but one aspect rather than another may assume practical importance depending on whether the service is being examined from the point of view of the patient, or from the point of view of his family and associates, the rest of the community, or the mental hospital and its personnel. If the patient is the primary consideration, then the effectiveness of the protection, care and treatment provided, would be the focus of appraisal. If, however, the service is being considered in its social and public health aspects, that is, the efficiency with which the mental health needs of the community are being served, then we would need to assess such things as the prevalence of mental disorder in the area, referral rates, duration of illness on referral, the protection the service affords and the help it provides to those in the community closest to the patient.

A service may also be considered as an administrative undertaking. The questions which might then be asked are whether it makes the best use of the facilities available, or whether it makes too heavy demands on psychiatric personnel, beds and money in short supply.

Our research unit came to study some of these features of a mental health service because we had the good fortune to be in Graylingwell Hospital when it was introducing the Worthing Experiment. This provided an opportunity to assess a new trend in the treatment of the mentally ill: the recent shift in emphasis from hospital to community care. The new Mental Health Act also suggests that it is in this direction that further changes in administrative provisions will be made in the future and encourages this approach. So there is now clearly a need to examine objectively the effects of community care on at least some of those aspects of a service already mentioned. Before describing the features we selected for investigation and the methods employed, it would be appropriate to outline first the history and characteristics of the service being studied.

It is a domiciliary and day hospital service, centred on the mental hospital, Graylingwell, which is situated in a predominantly rural catchment area with a population of 370,000. It is divided into three approximately equal parts each of which includes a large town where outpatient clinics are held. The largest of these towns is Worthing, and it was in Worthing and its district that the community service was first started in 1957. The service was extended to Chichester and district in 1958.

The object of the Worthing experiment was 'to discover whether the provision of large-scale psychiatric treatment on an outpatient basis could materially affect the great annual increase of admissions to the mental hospital' (Carse, 1959). To begin with, therefore, no claims about the superior value of community to hospital treatment were made.

A day hospital was set up in Worthing (and subsequently in Chichester) to which the local practitioners in the area were asked to refer all their psychiatric cases (Carse *et al.*, 1958). A decision would then be made whether to visit the patient in his home, see him at the day hospital, or at an outpatient clinic later. The initial contact with the patients is equally divided between these three alternatives. No patient is admitted to Graylingwell, therefore,

without previously being referred to the service. Patients who are admitted are, on discharge, returned to the care of the service.

If the evaluation of the service is confined to assessing its success in reducing admissions to Graylingwell, the original purpose, there is no doubt that the Worthing Experiment has been outstandingly successful in achieving what it set out to do. Admissions to Graylingwell from the experimental area in 1957 decreased by 56% when compared with the admissions from this area in 1956; whereas admissions from the rest of the catchment area (the Chichester and Horsham districts), in which the service did not operate at that time, increased by 4% during the same period. Admissions from Worthing continued to decrease, by 62% in the second year and 58% in the third year, as compared with 1956, the year preceding the experiment (Carse, 1960). This decrease in admissions, it has been said (Skottowe and Parnell, 1958), may reflect no more than the reduction of an exceptionally high hospital admission rate to that of the national average. Certainly the level of admissions to Graylingwell was high before the introduction of the community service, but compared with many other mental hospitals Graylingwell had for some years enjoyed a good reputation locally. Once a mental hospital becomes accepted by the community it will attract the admission of those who previously shunned it. Consequently, an over-crowding problem develops and so it becomes necessary to consider who will benefit most from admission and who may be more suitably treated by day-hospitals, domiciliary and outpatient care.

The relevant criterion in evaluating the effect of a hospital's community care programme on admission rates is not, therefore, how the level of, or decrease in, admissions compares with the national average; but whether the decrease occurs over the whole range of clinical groups referred, rather than just in that group of patients which, in other areas, would not ordinarily have been admitted. This was an aspect of the service which we have, in fact, assessed in our preliminary enquiry and this will be referred to again.

The first aspect, therefore, it was both necessary and practical to evaluate, is derived from the above consideration; namely, which kinds of patients are being spared admission by a service of this kind? And the corollary of this: what clinical, social and environmental considerations determine whether a patient is



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admitted to hospital? For we assumed that factors beside clinical ones (such as diagnosis) influenced whether a mentally ill patient is treated at home or in hospital. If the clinical variables are held constant then the social ones determining admission may be recognized; for example, if two clinically similar patients are referred with a depressive illness of moderate severity, whether they are treated at home or in hospital is likely to be determined by such factors as whether they are living alone, the type of job they have, or by their family responsibilities. To answer the above questions on factors favouring admission and those favouring home care would provide the data required for the successful planning of similar services in other areas, and for estimating the disposal expected in relation to the social characteristics of an area and its population. We therefore decided to make this study of why people came into hospital our first concern.

Such a study of disposal should distinguish the effect of a particular type of service on who comes into hospital. We also need to know whether the disposal is an appropriate one. In deciding this the interests of the patient and his family are those which must have the prior claim to consideration.

The question we believed it would be most necessary to ask about the patient is whether a community service is more therapeutically effective than hospital treatment. As we have chosen in this study to collect clinical and social data at the time of referral, the evaluation of treatment must be derived by comparing the clinical data and the assessments of social adjustment recorded in a patient cohort on referral with those obtained after following the cohort for fixed periods of time.

Another very relevant feature to examine in a community service is what benefits and burdens accrue to the families of patients who are treated at home. Families are the representatives of the community most directly involved or affected by the introduction of domiciliary or day hospital schemes, so the evaluation of the effects on the family of caring for a mentally sick member should, we thought, also have a high priority.

Others likely to be affected by community care (or by the introduction of any other type of service), but who are not included in our evaluation, are those people adjacent to the family (such as relatives, friends, and neighbours who might be expected to support the patient) and the wider community, independent of the family,

whose attitudes to the hospital and mental illness may be changed as a consequence of the service. The medical practitioners in the area, on whom will devolve a more active role in the care of mentally ill patients on their lists, and their tolerance of these greater demands, will affect the success of any scheme of community care. The participating psychiatrists will also be affected. They must be willing to deal more directly with the families of their patients and will need to weigh the advantages to be expected from a closer acquaintance with the family background against the reduction in the number of patient-interviews he will be able to undertake in a working day. We would, therefore, like to know whether a service of this kind is a gratifying way of working and a source of clinical satisfaction to the psychiatrist. The local mental hospital in particular will feel the impact of community services, because it then ceases to be the centre of psychiatric operations and the focus of the medical staff's interests. The effect on the morale of the nursing staff, the standard of patient care and the duration of the patient's stay would therefore also be an important part of any over-all evaluation. Community care might be expected to lead to heavier demands on the local authority services. What increases in services do the families, medical practitioners and psychiatrists demand, and to what extent are these requirements met? Finally, the administrators of the area would want to know the cost of running a new service and whether the overheads will be greater or less than before its introduction.

These then are some of the consequences which might follow the introduction of a new service. Clearly some consideration such as the benefit to the patient (in and out of hospital) and his family must weigh more heavily than others. In summary therefore, we have had to limit ourselves to evaluating those aspects which seemed to us to be most in need of an answer at the present time, but also capable of reliable assessment. These were:

1. To study clinical, social and environmental factors which determine whether a mentally ill patient is treated at home or in hospital.
2. To study the effects on the family and household of caring for a mentally ill member.
3. To provide data for a follow-up study to compare the therapeutic efficacy of community and hospital care.

*THE PRELIMINARY STUDY*

We began by exploring the relation of the various factors to disposal in a preliminary study in which the effect of the service on admissions in various groups was examined from hospital records (Morrissey and Sainsbury, 1959). Admissions from the Chichester area to Graylingwell Hospital in 1957 were compared with those in 1958, the year in which the community service was introduced. We therefore attempted a comparison between the characteristics of the patients admitted to the county hospital before the community service was started and those admitted afterwards, using the hospital and catchment area as its own control in two different periods in time. This retrospective comparison showed that there was a proportionately and significantly greater reduction in certain vital, social and clinical groups in 1958.

During the first year of the Service (1958) 842 new patients were seen. This gives a referral rate for the area of West Sussex served by the Chichester Scheme of 7.5 per 1,000 population. The referral rate for the previous year for the same area, was 6.8 per 1,000 population. So, it is seen that a simple comparison of referral rates from the same population under two differing administrations shows that the introduction of community care increased the number of patients who came for psychiatric treatment; 614, or 73% of those referred, were treated as outpatients, in the day-hospital or at home. In 1957 there were 463 admissions to Graylingwell from the area covered by the Chichester Scheme. The number of admissions from this area in 1958 was 228, which gives a reduction of 51%. We therefore next asked which clinical, social or other groups, about which simple and reliable data were obtainable, contributed most to this reduction in admission following the introduction of the community service. To do this the admissions over the six month period April-September, 1958, were compared with admissions during the same six months in 1957.

All categories of patients were spared admission by the new service (except for the aged and the widowed). Certain categories, however, were less likely to be cared for in the community than others. For instance there were significant changes in the age distribution of admissions in 1958 (see Table 1). The overall decrease in admissions was 43%, but there was a proportionately

greater decrease in the age groups 25-44 and 45-64. There was an increase (29%), however, in those aged 75 and over.

TABLE 1  
*Numbers of Admissions by Age from Chichester in 1957  
and 1958*

Age	Number of Admissions		% change
	April-Sept. 1957	April-Sept. 1958	
0-24 . . .	8	7	- 12.5
25-44 . . .	38	18	- 52.6
45-64 . . .	73	24	- 67.1
65-74 . . .	40	26	- 35.0
75 + . . .	21	27	+ 28.6
	180	102	- 43.3%

$$X^2 = 15.11 \quad P < 0.01$$

Similarly, there was a significant change in the sex distribution of admissions (males decreased by 52% and females by 40%) and in the proportions of married to single patients. The admission of the married was reduced by 60% and the single and separated by 45%; but the admission of the widowed increased by 15% (see Table 2).

TABLE 2  
*Numbers of Admissions by Civil Status from Chichester in  
1957 and 1958*

	1957	1958	% change
Single . . .	53	29	- 45.3
Married . . .	93	37	- 60.2
Widowed . . .	26	30	+ 15.4
Separated . . .	9	5	- 44.4
	181	101	

$$X^2 = 10.75 \quad P < 0.05$$

The number of patients coming into hospital from the different parts of the county was also affected. Admission of patients living

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within ten miles of the hospital was reduced by 55%, but more distant admissions by only 14%.

Other social factors that appeared to be associated with admission were social class and mode of living. The trends of admission considered in relation to these characteristics were that decrease in admissions in social classes 4 and 5 was 32%, while in class 3 it was 49%, and in classes 1 and 2 it was 45%. When mode of living was examined the least change in admission rates occurred among patients living alone and the greatest decrease among those who lived with their parents (see Table 3).

TABLE 3  
*Numbers of Admissions by Mode of Living from Chichester in 1957 and 1958*

	1957	1958	% change
With family . . .	84	48	- 42.9
With parents . . .	23	13	- 43.5
With other relatives .	18	11	- 38.9
Alone . . . . .	44	30	- 31.8
	169	102	

The introduction of the community service had also affected the clinical groups who were being admitted to hospital (see Table 4). There was a highly significant difference in the patterns of admissions in the different groups in the two years. The greatest

TABLE 4  
*Numbers of Admissions by Diagnosis from Chichester in 1957 and 1958*

	1957	1958	% decrease or increase 1957/1958
Schizophrenia . . .	27	17	- 37%
Affective psychoses . .	82	46	- 44%
Neuroses . . . . .	32	5	- 84%
Senile psychoses . . .	18	26	+ 44%
Other . . . . .	19	8	- 58%
	178	102	

$$X^2 = 18.7 \quad P < 0.001$$

decrease was in the neuroses. The affective psychoses and schizophrenia also decreased considerably, but there was an increase in the case of senile psychoses. It is possible, that because of the facilities provided by this Service, more senile patients were referred for psychiatric care.

Table 5 shows the percentage change in admissions in 1958 as compared to 1957 (*a*) when there had been a previous admission to Graylingwell or any other hospital, and (*b*) in the cases in which the only previous admission had been to Graylingwell. There was a significantly greater decrease in patients with a history of a previous admission to any mental hospital and this decrease was even more marked in patients with a history of a previous admission to Graylingwell Hospital.

TABLE 5

*Numbers of Admissions in 1957 and 1958 by First and Previous Admission to Graylingwell and Other Hospitals*

	1957	1958	% change
Previous admissions (to any hospital) . . .	116	54	- 53.4
First admissions . . .	42	41	- 2.4
	158	95	

$$X^2 = 7.38 \quad P < 0.01$$

	1957	1958	% change
Previous admissions (to Graylingwell Hospital) . . .	106	40	- 62.3
First admissions . . .	42	41	- 2.4
	148	81	

$$X^2 = 11.20 \quad P < 0.001$$

These results show that the service had also had an effect on the mental hospital because the categories of patients admitted had changed. This effect on the hospital was therefore examined further by comparing the duration of the patient's stay before and after the introduction of the service. In 1957 the mean stay in weeks was 8.6 and in 1958 it was 10.0. This increase is not statistically significant.

It was concluded that the methods used in the pilot study of comparing the proportional reductions in admissions of differing categories of patients in two services could be profitably undertaken and differences in the effect of the services revealed.

The pilot study was a retrospective one. A prospective study would be a preferable way of examining the effect of the many variables determining disposal. Our current study was therefore planned in this way. This approach enabled us to select the relevant data, increase the objectivity of assessments and to record information in the form best suited to statistical analysis.

The design of this enquiry, the problems of defining the population to be studied, and of obtaining reliable measures of the variables determining disposal will now be described.

### *The Study Comparing two Different Services*

We decided that the most valid information would be obtained by comparing two different mental health services. Information about the area covered by one service only, would describe the incidence of the factors determining admission within that area. By comparing one area with another, however, it becomes possible to examine statistically, (a) which factors determining disposal are common to both areas (for example, that those who live alone are more readily admitted than those who live with families), and (b) which factors determining disposal depend on differing administrative policies (for example, in a community-care service occupied males might be a group in whom the admission rate is relatively low).

We therefore planned to assess and compare in two populations those factors we predicted likely to favour treatment at home and those likely to favour treatment by admission. The areas we chose resemble each other closely except that in one, Chichester, the domiciliary psychiatric service obtains, whereas in the other, Salisbury, there is a more usual and conservative policy of admission to the mental hospital. The population we decided to compare were all patients newly referred during one year to each of these services. The number expected in Salisbury was 500 and in Chichester 700.

### *Data Required for Assessing Clinical Factors Determining Admission and Method of Obtaining These*

To be able to compare the two groups it was necessary for the clinical information on which the psychiatrist based his recommendations for the patient to be available and systematically recorded. We considered it important to study what actually

happens under health service conditions and therefore limited our interest to the disposal decided at the initial interview.

We chose the following clinical factors as being those most relevant to admission: family and previous history; duration of illness; diagnosis and the principal symptoms as they were reported by the patient, observed by the psychiatrist and described by the informant as disturbing behaviour in the home.

The psychiatrists at both hospitals were kind enough to agree to use an Item Sheet (Appendix I) which we had prepared as their basic clinical record sheet, so that this information could be systematically and comparably recorded for the two populations.

The initial disposal and treatment, and certain vital data known to be related to hospital admission (age, sex, marital status and social class) are also recorded on this sheet.

In the Chichester area the psychiatrist also completes a section of the Item Sheet in which he gives his reasons for admitting or not admitting the patient, that is, whether admission to hospital was primarily for clinical reasons, such as severity of symptoms, need for investigation or to obtain treatment that could only be given in hospital; or whether it was necessary because of some social or family problem: that the patient was homeless, for instance, or his family were unable to cope. It was apparent in the preliminary study that admission was sometimes determined by factors the psychiatrist was not aware of. It will therefore be of interest to compare their stated reasons for admission with those found later on statistical analysis.

### *The Reliability of Clinical Assessments*

To assess the reliability of the clinical data obtained, the Item Sheet was independently completed on 90 patients by two psychiatrists and their agreements were recorded. The extent of agreement on diagnosis, on symptoms, on the duration of the illness, on the previous history of illness, etc., has been calculated; also whether agreement on diagnosis was affected by agreement on the other clinical observations. The results show that agreement on broad diagnostic categories was 79%; but for organic illness in the elderly it was 85%, for the psychoses it was 71%, for the neuroses 52%, and for all other conditions it was 33%. Agreement on previous illness was 68%, on duration it was 58% and on family history it was unexpectedly high (87%). Agreement on diagnoses



was found to be significantly related to the level of agreement on previous illness (Kreitman *et al.*).

*Data Required for Assessing Social Factors Determining  
Admission and Method of Obtaining These*

Certain social data such as social class and mode of living, already found to be associated with admission to hospital, are recorded on the Item Sheets and will therefore be available for all first referrals. In addition we required social data on other social and familial factors that we predicted could determine disposal. These were: composition of the patient's household (this includes the age of the members of the household, their relationship to the patient and the presence of children); next, his social and economic status; his employment situation; certain characteristics of his housing and locality; the health of other members of his family and the co-operation obtained from friends and neighbours; then, the attitude of household members to the patient and to his admission; and finally, the effects of specified symptoms and of their duration on the household.

To obtain this data it was necessary to interview the patient's families. A schedule was therefore devised (Appendix II) on which this data could be systematically recorded when his home was visited. It was not practical to visit every new patient in Chichester and Salisbury, but by taking a representative sample of these, we expect to have visited 150 families in Salisbury and 300 in Chichester by the end of the experimental year.

*Data Required for Assessing the Effects of Community Care  
on Patients' Families*

Data by which the effects on the family of caring for the patient at home are assessed are obtained on the same schedule. These are: the effects of the patient's illness on the employment of household members, on domestic routine, and on the children's schooling; also recorded are the effects on the social and leisure activities, on the family's income, on the mental and physical health of household members and on their relations with neighbours. In this way each informant's appraisal of the advantages and disadvantages to his family of admission or domiciliary care is tabulated or rated.

*Method of Assessing Social Data*

Three psychiatric social workers, one in Salisbury and two in Chichester, completed the social schedule by interviewing an informant in the patient's home. The informant is the spouse or responsible relative. This is defined in an instruction booklet which the P.S.W.s consult when completing each schedule.

This home visit is made as soon as possible following the patient's first interview with the psychiatrist. As this is one to three weeks later, some of the data has to be recorded as it applies on the day of the visit and as it applied at the time the disposal was made (the day the psychiatrist was seen). In this way it has been possible to measure changes occurring in the interval and assess some of the consequences of the disposal recommended.

On her visit the P.S.W. does not rigidly adhere to the order of the items in the schedule, but guides the interview to each of the main topics covered until the facts and ratings on the seventy-two items have been completed. The main content of the conversation as well as the factual information is recorded at the time, but many of the ratings are made immediately afterwards.

Facts such as the ages of other members of the family present little difficulty. Ratings of, for example, the amount of interference with household routine, effects on social and leisure activity or anxiety caused to the informant or others in the home, are based wherever possible on descriptions of the patient's behaviour and concrete examples of its effects on the family. Anchoring examples and definitions for rating these data are given in the instruction book. Similarly, attitudes which might be important in determining disposal are assessed from the replies to a number of attitude-evoking questions.

*The Reliability of Social Assessments*

To find the reliability of the interviewing schedule the three P.S.W.s visited the households of 60 patients in pairs and completed separate schedules for each joint interview (Grad *et al.*). The per cent agreement between them on the seventy-two items in their schedule was assessed and showed an agreement of at least 85% on sixty-three items. With this information obtained from the pilot study, unreliable questions were re-defined or

omitted from the schedule which is being used for the major enquiry.

### *ILLUSTRATIVE FINDINGS*

The pilot study findings indicate that interesting material both on factors determining disposal of patients and on the effects of caring for a mentally ill person at home, is likely to emerge. For example, as well as bearing out the preliminary enquiry's findings that admission was related to age and diagnosis, it also indicated that there was a trend for admission to hospital to be related to household size and to the patient's financial status and social class.

Our tentative conclusions from a preliminary analysis of the problems that these 60 patients were causing their family at the time of referral were that in 36% of the families social activities had been restricted; in 25% the job of a family member had been affected; and that 40% of the cases presented some problems of management (in 20% this was severe). The health of the informant was affected psychologically in 32% and physically in 36%; the health of other family members was affected in 44% of households. Family income was diminished on account of the patient's illness in 33% of the households (severely in 20%) at the time of referral. These figures were higher in the families of those patients whom it was decided to admit. Following admission, however, the effects on the families of the inpatient group were found to be less than on the families of those who remained at home.

It will be a year before we have collected all the clinical and social data on patients referred in both districts. Only then will it be possible to analyse and compare the findings in the two services, and to begin a follow-up study to compare outcome in each of them according to the type of treatment given and by clinical categories.

### *FINDINGS ON THE ELDERLY*

As some preliminary data about the 60 elderly people seen so far in the Chichester area are available, we would like briefly to present these. The findings at this stage of the study can only broadly indicate some of the factors affecting the disposal of elderly patients and some effects on the households in which they

live. More definitive statements will only be possible when comparable data have also been obtained from the control area.

Of these 60 patients 18 were male and 42 female; 32 were diagnosed as suffering from an organic psychoses and 28 from an affective disorder. After the initial interview 21 of the 60 patients were admitted to Graylingwell, 5 were admitted to other institutions, and 34 were treated at home.

Have we shown that any factors were related to these differences in disposal? And have we described the effect that the care of these patients has had on their families?

### *Age and Diagnosis*

Seventeen (61%) of the 20 patients aged 75 + were admitted as compared with only 9 (28%) of the 32 aged 60-74 (Table 6).

TABLE 6  
*Disposal of 60 Elderly Patients by Age*

<i>Age</i>	<i>In Graylingwell or other hospital</i>	<i>At home</i>
60-69 . .	4	19
70 + . .	22	15
Total . .	26	34

$$X^2 = 8.58 \quad P < 0.01$$

The association found between diagnosis and age in this small sample was as follows: 82% of those over 75 had an organic psychosis, as compared with 28% in the age group 60-74 (Table 7). Moreover, 56% of the organic cases were admitted to Gray-

TABLE 7  
*Diagnosis and Age in 60 Elderly Patients*

<i>Age</i>	<i>Organic</i>	<i>Affective</i>
60-74 . .	9	23
75 + . .	23	5
Total . .	32	28

$$X^2 = 15.4 \quad P < 0.001$$

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lingwell as compared with only 29% of the patients with affective disorders (Table 8). In considering the effects on the family it should be borne in mind that whereas an organic diagnosis and an age of 75 years or more was associated with inpatient care, yet there were still 11 (39%) persons aged 75 +, and 14 (44%) with organic diagnoses, who remained in the community.

TABLE 8  
*Disposal of 60 Elderly Patients by Diagnosis*

<i>Disposal</i>	<i>Organic</i>	<i>Affective</i>
Graylingwell or other hospital . . . .	18	8
At home . . . .	14	20
Total . . . .	32	28

$$X^2 = 3.60 \text{ N.S.}$$

### *Family Composition*

The age and composition of the family household and their attitude towards hospital care for the elderly patient, was related to the type of care that the Chichester Service provided.

Patients who were living with a spouse had the most chance of remaining at home while being treated; 25% of those who lived with a spouse were admitted, but of those who lived with any other person 62% were admitted, a significant difference (Table 9). This influence of the spouse is slightly outweighed when he or she is also aged, but even so, 71% of those patients whose spouse was aged 65 or more years were able to remain out of hospital.

TABLE 9  
*Disposal of 60 Elderly Patients by Mode of Living*

<i>Disposal</i>	<i>Lives alone</i>	<i>Lives with spouse</i>	<i>Lives with others</i>
Graylingwell or other hospital	7	6	13
At home . . . .	8	18	8
	15	24	21

$$X^2 = 6.31 \text{ } P < 0.05$$

It is interesting and surprising to see that in contrast to the general trend of admissions in *all* age groups, the elderly are not more likely to be admitted if they live alone, in fact, they are less likely to be admitted if they live alone than if they live with any person other than the spouse (Table 9).

### *Family Attitudes*

This difference found between those who live with a spouse and those who live with any other person led us on to consider the family's attitude to hospital care for their mentally sick elderly relative. We found this to be very significantly related to disposal (Table 10).

TABLE 10

*Disposal of 55 Elderly Patients by Attitude of Family to Mental Hospital Care\**

<i>Disposal</i>	<i>Not wanted but accepted as necessary</i>	<i>Preferred</i>	<i>Strongly wanted or it was a great relief</i>
Graylingwell or other hospital	7	8	9
At home . . . . .	24	4	3
	31	12	12

$$X^2 = 12.97 \quad P < 0.01$$

\* In 5 cases there was no family.

71% of the relatives of inpatients were in favour of hospital care. To 37% it had, indeed, been a great relief; 29% however, would have preferred to have their patient at home. 23% of the relatives of outpatients, would have preferred hospital care. The probable bias in this finding is undoubtedly an over-reporting of preference for home care. There is no doubt that admission to mental hospital or even nursing-home bears the stigma of 'putting the old person away'. We may therefore consider that this 23% is an under-estimation of the number of families who would have preferred hospital care.

When the attitude to admission of outpatients was considered further, it was found that only 18% of spouses favoured or desired

hospital care; but 31% of relatives and others living with the patient would have preferred it. This may go some way to explaining the finding that those living with any other relative are more likely to be admitted than those living alone.

### *Family Competence*

To move from the realm of attitudes to some more tangible aspects of the patient's social environment our figures seem to show that not just the person with whom the patient lives, but the ability of the family to cope, is related to admission.

From the general history and description of the family composition, of housing, health, attitudes, occupation, etc., the P.S.W.s made an assessment in each case of the families' ability to look after the patient at home. When there was no family, or the family refused to have the patient, or were physically or mentally incapable of managing, or found their own family life or peace of mind seriously threatened by the patient's presence, this was rated as 'poor'. Similar but less severe problems were given a middle rating of 'some difficulty'. All other families were rated as 'able'. We then found that 88% of the inpatients' families and 44% of the home-care families, had difficulties in coping; in 65% of the 'inpatients' families and in 26% of the 'home-care' families, these difficulties were severe (Table 11). When health alone was considered a similar trend appeared. The health of the family was rated as 'poor' in 25% of those admitted to hospital, but in only 10% of the home group.

TABLE 11

*Disposal of 60 Elderly Patients by Ability of Family to Cope*

<i>Disposal</i>	<i>Ability to Cope</i>			<i>No family</i>
	<i>Good</i>	<i>Some difficulty</i>	<i>Poor</i>	
Graylingwell or other hospital . . .	3	6	15	2
At home . . .	19	6	5	4
	22	12	20	6

$$X^2 = 16.51 \quad P < 0.001$$

*Effects on Family*

A separate assessment was made of the effect that the patient's presence has on the family. Such measurable factors as effect on income, leisure-activities and household-routine, were considered along with the informant's self-ratings of poor health, exhaustion, disturbed nights, anxiety, irritability, etc., due to the patient. We found (Table 12) that more than two-thirds of those who were rated as being a 'severe burden' had been admitted to Graylingwell; but that 6 (19%) of the 31 outpatients were also a severe burden to their families, and an additional 12 (38%) were some burden. Thus, while problems of the family in managing the patient are clearly associated with inpatient care, yet there are many families who, despite similar problems, continue to support the burden of caring for their mentally ill aged relative.

TABLE 12

*Disposal of 55 Elderly Patients by Effect on the Family\**

<i>Disposal</i>	<i>No burden on family</i>	<i>Some burden on family</i>	<i>Severe burden on family</i>
Graylingwell or other hospital	2	9	13
At home . . . . .	13	12	6
	15	21	19

$$X^2 = 10.37 \quad P < 0.01$$

\* In 5 cases there was no family to rate.

*Conclusions and Summary of the Results of the Evaluation of the Service so Far**The findings show:*

1. That such factors as the composition of the family, and the family's attitude to the patient, relate to his admission. Whether the patient is admitted depends, we found, on whom he is living with. The patient who is living with a spouse is very much less likely to come into hospital than one who lives with a relative who is not his spouse; in fact, under the latter circumstances we found that the older patient is more likely to come in than if he is living alone. Similarly we found a definite relation between our assess-



ment of the family attitude to the patient and whether or not he is admitted. Where the attitude is a positive and accepting one the doctor usually recommends community treatment, but an unfavourable hostile attitude was associated with admission.

2. That the effects on the family of patients who are eventually admitted and of those who are treated at home were clearly differentiated from one another.

3. It is evident that the disposal chosen for the elderly by the doctor—whether he advised hospital or domiciliary care—closely matched the assessments we had independently made of the burden that the patients were to their family.

The evaluation of the therapeutic efficacy of the scheme will only be possible after the sample of patients for whom both Item Sheets and Schedules are available have been followed up for at least one year. The data recorded on the Item Sheet will provide measures of clinical changes. Social criteria of the effect of therapy will be based on the data obtained from the Social Schedule. The patients' social and family adjustments will be assessed by comparing the original facts and ratings with the follow-up data on the following: employment status, earnings, and such effects on his family as interference with social and leisure activities, whether patient is a burden, family income and work, family health and changed family attitudes.

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Hospital Ref. No.....

Part I. SOCIAL.

Research No. ....

SURNAME		CHRISTIAN NAMES					Sex *	
							M      F	
Age	Date of Birth	Marital Status ***						
		M		S	W	Sep.	Div.	Co.
Date of Interview	Seen by			Seen at *				
				Clinic		S.H.	Dom.	Other Hosp.
Old Case *	Follow-up from :		Referred by :			Name and Address of G.P.		
Yes      No								
Patient's Address		Relative's Name and Address						
Tel. No.		Tel. No.					Tel. No.	

Occupation in full. (For married woman give husband's occupation also. If patient 21 years and living at home give father's occupation also. If retired give previous occupation).

Working at present *							
Full-time	Part-time	On sick leave	Unemployed	Retired	Never occupied	H/W	
						Duration in this Status.....	
Patient lives with ***							
Mother	Father	Spouse	Children	Sibs	In-laws		
Other relatives	Friends	Alone	Lodging	Boarding	Hotel	Nursing Home, etc.	
						No. of people .....	

Part II. CLINICAL.

Duration of illness ***								
From patient :		—1 week	—1 month	—6 months	—1 year	—2 years	2 years +	
From relative :		—1 week	—1 month	—6 months	—1 year	—2 years	2 years +	
CLINICAL FEATURES IN DECIDING DIAGNOSIS AND DISPOSAL ***		Ob- served	Reported by Pt.    Rel or other		CLINICAL FEATURES (contd.)		Ob- served	Reported by Pt.    Rel or other
1. Overactive, Overtalkative					15. Speech disturbances—mutism, aphasia			
2. Elation					16. Confusion, disorientation			
3. Aggression, violence					17. Intellectual deterioration			
4. Depression					18. Loss of memory			
5. Retarded, anergic					19. Disorders of conscious			
6. Insomnia					20. Anxiety			
7. Suicidal					21. Other disturbances of mood			
8. Agitation					22. Phobias and/or obsessions			
9. Loss of concentration					23. Derealisation, depersonalisation			
10. Autistic behaviour (withdrawn, odd)					24. Somatic symptoms—specify			
11. Delusions					25. Sex problems			
12. Hallucinations					26. Delinquent and asocial			
13. Disorders of thought					27. Other behaviour disturbances—specify			
14. Unable to care for self					28. Other symptoms—specify			

\* Tick or circle one item only.    \*\* Tick or circle one item in each row.    \*\*\* Tick or circle all relevant items.

PREVIOUS MENTAL ILLNESS (N.B., Suicide attempt)						Yes	No	D.K.
Date	Clinic	Domiciliary	S.H.	G.H.	Other Hosp.	Not Treated		Same/Different (specify)

**FAMILY HISTORY.\*** (Clear history of mental illness, suicide or admission to mental home)

- Yes specify :—
- No
- Not Known

**MEDICAL NOTES.**

DIAGNOSIS.*	1st	Final		1st	Final
1. Psychoses of old age			8. Other Neuroses		
2. Other organic			9. Personality disorder—specify		
3. Schizophrenia					
4. Affective psychoses			10. No Psychiatric abnormality		
5. Mental Deficiency			11. Other (specify) and/or comment		
6. Reactive (Neurotic) Depression					
7. Anxiety States					

TREATMENT.***	1st	2nd	3rd	DISPOSAL.
Psychotherapy (Intensive)				Hospital Admission.....
Psychotherapy (Supportive)				Domiciliary Care.....
Psychotherapy (Group)				Day Hospital (daily) .....
Consultation and advice				Day Hospital (less than daily).....
P.S.W. Supportive, or social				O.P. Clinic .....
Pharmacological (with supportive therapy)				Other Hospital .....
E.C.T.				Social Agency .....
Other physical				Discharged .....
General Medical				Other (specify) .....
No treatment necessary, or other (specify)				

Part III. FACTORS AFFECTING DISPOSAL.

Limit to those factors you definitely took into account when deciding whether to admit or to treat patient outside hospital.

CLINICAL FACTORS (Other than specific symptoms, q.v.)	Tick here if this was a reason for	
	ADMITTING	NOT ADMITTING
1. Duration of illness		
2. Need for skilled nursing or management (Incontinent or troublesome)		
3. Supervision for own safety (suicidal, wandering)		
4. Supervision for safety of others		
5. Needs treatment only available in hospital		
6. Needs further investigation and observation		
7. Treatment of co-incident physical illness		
8. Unable to co-operate as Out-patient		
9. Other clinical—specify		
SOCIAL FACTORS		
10. Mode of living (Admitted because alone, no suitable care—not admitted because home care available)		
11. Occupational situation (admitted to remove from stress of job not admitted in case might lose job)		
12. Family responsibilities (admitted to remove from stress of these not admitted because wage earner or mother with small children)		
13. Neighbours, friends and relatives (admitted because these are disturbed by or object to patient not admitted because these are helpful)		
14. Family health (admitted because family ill, unable to cope, needs rest)		
15. Locality and type of home (admitted because home crowded, poor, distant not admitted because home large, comfortable, near)		
16. Social standing (prestige)		
17. Attitude of G.P. (pressing for admission or home care)		
18. Family's attitude to Mental Hospital admission		
19. Patient's attitude to Mental Hospital admission		
20. Family's attitude to patient (home care possible as family is sympathetic, accepting home care not possible as family is markedly unsympathetic, rejecting)		

\* Tick or circle one item only.      \*\*\* Tick or circle all relevant items.

Has permission for P.S.W. to visit patient's relatives been obtained?

Yes

No

P.T.O.

## APPENDIX II

### CHICHESTER PSYCHIATRIC SERVICE

#### *Home Visit Schedule*

Name of patient ..... Age .....

Address .....

.....

.....

Tel. No.....

How long at above address .....

How long in West Sussex .....

Name of informant ..... Age .....

Relationship to patient.....

Address .....

.....

.....

Tel. No.....

Where first seen ..... Date.....

Date of P.S.W. research visit .....

Date completed and checked .....

Signed.....P.S.W.

Research No.....

Chi. Ref. No.....

Complete from Item Sheet

1. Sample:	Chichester	0		
	Salisbury	1		
2. New or Old Case:	First referral to the Service	0		
	Not seen for 6 months	1		
3, 4, 5. Case Number:		0	0	0
		1	1	1
		2	2	2
		3	3	3
		4	4	4
		5	5	5
		6	6	6
		7	7	7
		8	8	8
		9	9	9
6. Sex:	Male	0		
	Female	1		
7. Marital Status:	Single	0		
	Married	1		
	Widowed	2		
	Separated	3		
	Divorced	4		
	N.K.	X		
8. Duration of present marital status:	0-4 years	0		
	5-9 years	1		
	10-14 years	2		
	15-20 years	3		
	20 + years	4		
	Single	Y		
9. Cohabiting outside marriage:	No	0		
	Yes	1		
	N.K.	X		

## Complete from Item Sheet

10. Age of patient:	-24	0
	25-29	1
	30-34	2
	35-39	3
	40-44	4
	45-49	5
	50-54	6
	55-59	7
	60-64	8
	65-69	9
	70 +	X
11. Relationship of Informant:	Spouse	0
	Parent	1
	Child	2
	Sib	3
	Other relations	4
	Patient	5
	Other	6
12. Age of Informant:	Under 25	0
	25-39	1
	40-59	2
	60-69	3
	70 +	4
13. Diagnosis (specific):	Psychoses of old age	0
	Other organic	1
	Schizophrenic	2
	Affective psychoses	3
In full.....	Endogenous (non-psychotic) depressions	4
.....	Mental deficiency	5
.....	Reactive (neurotic) depression	6
	Anxiety states	7
	Other neuroses	8
	Personality disorders	9
	Other	X
	No psychiatric abnormality	Y
14. Diagnosis (generic):	Organic	0
	Psychotic	1
	Neurotic	2
	Personality disorders	3
	Other	X



## Complete from Item Sheet

15. Treatment recommended:	Psychotherapy	0
	Pharmacological	1
	E.C.T.	2
	P.S.W. or other social work	3
	Other	4
	No treatment necessary	5
16. Family History of Mental Illness:	None	0
	Some	1
	N.K.	X
17. Disposal at referral:	Admission to mental hospital	0
	Day hospital (daily)	1
	Day hospital (less than daily)	2
	Domiciliary care (medical)	3
	Domiciliary care (P.S.W.)	4
	O.P. Clinic	5
	Other type of hospital	6
	Other institution	7
	Social agency	8
	Discharged	9
	Other	X
18. Disposal at interview:	Admission to mental hospital	0
	Day hospital (daily)	1
	Day hospital (less than daily)	2
	Domiciliary care (medical)	3
	Domiciliary care (P.S.W.)	4
	O.P. Clinic	5
	Other type of hospital	6
	Other institution	7
	Social agency	8
	Discharged	9
	Other	X
19. If no research interview was held this was because:	No informants available	0
	Refusal by patient	1
	Refusal by relative	2
	Refusal by Service doctor	3
	Refusal by Service P.S.W.	4
	Failure to arrange interview	5
	N.A.	Y

## Complete from Item Sheet

		(a)	(b)
20 (a) Psychiatrist:	Simpson-Morrissey	o	
	Cowdy-Towers	1	
	Hucker-Scrivener	2	
	Bailey-Jones	3	
	Tolmie-Other (1)	4	
	Wilson-Other (2)	X	
	Other (3)	Y	
20 (b) Research P.S.W.:	Collins		5
	Stamp		6
	Grad		7
	Other (1)		8
	Other (2)		9
21 (a) District:	City of New Sarum-Chichester U.D.	o	
	Borough of Wilton-Bognor U.D.	1	
	Salisbury & Wilton R.D.-Chichester R.D.	2	
	Mere & Tisbury R.D.-Midhurst R.D.	3	
	Ringwood & Fordingbridge R.D.-Petworth R.D.	4	
	Amesbury R.D.	X	
	Other	Y	
21 (b) Location:	Urban		5
	Rural		6
	Isolated		7
Were any of the following symptoms recorded on referral?			
22 (a) Overactivity, over-talkativeness:	No	o	
	Yes	1	
22 (b) Aggression, violence:	No		5
	Yes		6
23 (a) Depression	No	o	
	Yes	1	
23 (b) Retardation, anergy	No		5
	Yes		6
24 (a) Suicidal tendencies	No	o	
	Yes	1	
24 (b) Agitation	No		5
	Yes		6
25 (a) Delusions	No	o	
	Yes	1	

Complete from Item Sheet

		(a)	(b)
25 (b) Hallucinations	No		5
	Yes		6
26 (a) Inability to care for self	No	0	
	Yes	1	
26 (b) Confusion, disorientation, intellectual deterioration	No		5
	Yes		6
27 (a) Disorders of consciousness	No	0	
	Yes	1	
27 (b) Anxiety	No		5
	Yes		6
28 (a) Phobias, obsessions	No	0	
	Yes	1	
28 (b) Derealisation, depersonalisation	No		5
	Yes		6
29 (a) Somatic symptoms	No	0	
	Yes	1	
29 (b) Sex problems	No		5
	Yes		6
30 (a) Delinquency and asocial behaviour	No	0	
	Yes	1	
30 (b) Other behaviour disturbances	No		5
	Yes		6

Complete at interview

SYMPTOMS AND DURATION

*History of the illness, duration, and details of previous illnesses, admissions, etc.*

*Reason for referral to the Psychiatric Service*

*Patient's behaviour on first referral to the Service and at the time of P.S.W.'s visit. (What worries the Informant most about him)*

## DURATION AND PREVIOUS ILLNESS

	(a) First ever onset	(b) Present illness
31. When did anyone first notice anything wrong?		
Less than 1 month ago	0	5
1-6 months	1	6
7 months- 2 years	2	7
2 + years	3	8
N.K. or N.A.	X	9
32. When was G.P. first consulted about it?		
Less than 1 month ago	0	5
1-6 months	1	6
7 months-2 years	2	7
2 + years	3	8
N.K. or N.A.	X	9
33. When was a psychiatrist first consulted?		
Less than 1 month ago	0	5
1-6 months	1	6
7 months-2 years	2	7
2 + years	3	8
N.K. or N.A.	X	9
34 (a) Has the patient been treated previously for any psychiatric illness?		
No	0	
Yes, before age 16 only	1	
Yes as O/P	2	
Yes as I/P	3	
N.K.	X	

Complete at interview

## EFFECT ON THE FAMILY

*Are there any special problems to the family because of the patient being treated at home? (e.g. interference with work, shopping, homework, school)*

*How much and what kind of looking after does he require?*

*Who is available to do this? Who else helps?*

*What do the people who have to look after the patient feel about it? (Does it seem a burden to them? Are they sympathetic, accepting, tolerant, or hostile and rejecting? Have their feelings to him changed because of his illness?)*

*Are the people who live with the patient able to cope physically and emotionally? What kind of a strain has it been (if any)? Has patient's attitude to them changed?*

SYMPTOMS. Their effect on the family and household as a factor determining disposal.

	(a) On referral	(b) On interview
35. Has he been any trouble at night? (Noisy wandering)		
No	0	5
Yes	1	6
N.K.	X	7
N.A.	Y	8
36. Has he been a nursing problem? (Bed-ridden, incontinent, feeding, washing)		
No	0	5
Yes	1	6
N.K.	X	7
N.A.	Y	8
37. Has his safety been a source of worry? (Wandering, gas, car)		
No	0	5
Yes	1	6
N.K.	X	7
N.A.	Y	8
38. Has he caused anxiety about the safety of others?		
No	0	5
Yes	1	6
N.K.	X	7
N.A.	Y	8
39. Has he caused difficulty by being unco-operative?		
No	0	5
Yes	1	6
N.K.	X	7
N.A.	Y	8
40. Is he a strain in relying and depending on people too much?		
No	0	5
Yes	1	6
N.K.	X	7
N.A.	Y	8
41. Has constant restlessness, noisiness or talking been upsetting?		
No	0	5
Yes	1	6
N.K.	X	7
N.A.	Y	8

## EFFECT ON THE FAMILY

	(a) On referral	(b) On interview
42. Have frequent complaints about bodily symptoms worried you?		
No	o	5
Yes	1	6
N.K.	X	7
N.A.	Y	8
43. Has he been a problem because of sexual, rude or objectional behaviour?		
No	o	5
Yes	1	6
N.K.	X	7
N.A.	Y	8
44. Has he caused anxiety by speaking or behaving oddly, or had unusual or unreasonable ideas?		
No	o	5
Yes	1	6
N.K.	X	7
N.A.	Y	8
45. Has he caused any trouble with the neighbours?		
No	o	5
Yes	1	6
N.K.	X	7
N.A.	Y	8
46. Has any other aspect of his behaviour worried you?		
Specify:		
No	o	5
Yes	1	6
N.K.	X	7
N.A.	Y	8



## EFFECT ON THE FAMILY

	(a) On referral	(b) On interview
47. When patient is at home does he need a lot of nursing or physical care?		
No	0	5
Yes	1	6
Constant attention or supervision	2	7
N.K.	X	8
N.A.	Y	9
48 (a) On whom does the main burden of looking after him fall?		
Spouse	0	
Parent	1	
Child	2	
Other relations	3	
Other	4	
N.K.	X	
N.A.	Y	
48 (b) Is the required care available at home?		
Yes		5
No		6
N.K.		7
N.A.		8
49. Does he require an excessive amount of attention or companionship?		
No	0	5
Yes	1	6
Yes, very demanding	2	7
N.K.	X	8
N.A.	Y	9
50. Is there anyone else to help?		
Yes, resident in household	0	5
Yes, not resident but always available	1	6
Yes, not resident, but sometimes available	2	7
No	3	8
N.K. or N.A.	X	9
51. Is household work or routine upset by patient?		
No	0	5
Occasionally	1	6
A great deal	2	7
N.K.	X	8
N.A.	Y	9

## EFFECT ON THE FAMILY

	(a) On referral	(b) On interview
52. Are social and leisure activities interfered with because of patient?		
No	0	5
Occasionally	1	6
A great deal	2	7
N.K.	X	8
N.A.	Y	9
53. Have there been any difficulties with neighbours because of patient?		
None	0	5
Some	1	6
Severe	2	7
N.K.	X	8
N.A.	Y	9
54. Has anyone in household had to stay away from work because of patient?		
No	0	5
Yes, occasionally	1	6
Yes, a great deal (> 14 days)	2	7
N.K.	X	8
N.A.	Y	9
55. Has anyone in the household had to stay away from school because of patient?		
No	0	5
Yes, occasionally	1	6
Yes, a great deal (> 14 days)	2	7
N.K.	X	8
N.A.	Y	9
56. Has patient's behaviour caused informant much anxiety?		
None	0	5
Some	1	6
Anxiety symptoms	2	7
N.K.	X	8
N.A.	Y	9
57. Has it been a physical strain?		
Specify:		
Not at all	0	5
Some	1	6
Marked physical debility	2	7
N.K.	X	8
N.A.	Y	9

## EFFECT ON THE FAMILY

		(a) On referral	(b) On interview
58. Have any children in the household been adversely affected?			
Specify:	Not at all	0	5
	Some disturbance	1	6
	A great deal	2	7
	N.K.	X	8
	N.A.	Y	9
59. Has anyone else in the patient's environment been adversely affected?			
Specify:	Not at all	0	5
	Some disturbance	1	6
	A great deal	2	7
	N.K.	X	8
	N.A.	Y	9
60. P.S.W.'s assessment of the overall effect of the patient on his family or household	No burden	0	5
	Some burden	1	6
	Severe burden	2	7
	N.K.	X	8
	N.A.	Y	9
61 (a) P.S.W.'s assessment of family or household's need for social work help	Not needed	0	
	After-care with patient	1	
	Practical social work help	2	
	Support and explanation for relatives	3	
	N.K.	X	
	N.A.	Y	
61 (b) P.S.W.'s assessment of informant's general attitude to patient	Positive		5
	Negative		6
	Uncertain or N.K.		7
	N.A.		8

Complete at interview

## HOUSEHOLD COMPOSITION AND INCOME

Household member. Relationship to patient	Age	Occupation (in full) for rating social class	Amount earned	Amount given to household	Pensions, Family Allowance, etc.
1. Patient					

*Financial situation of the family* (including Income, Rent, Rates, Debts, Pensions, Allowances, etc.)

*Note.* If possible specify all amounts exactly including any loss of income due to patient's illness.

*Effect of patient's illness on family income*

Complete at interview

## EDUCATION AND EMPLOYMENT

*Patient's education*

*Patient's employment history*

*Effect of patient's illness on his employment*

Complete at interview

## HOUSING

How many rooms are there in the house (excluding kitchen unless used as a living room)? .....

*Description of housing and any housing problem*

Is there a fixed bath?		Is there running water?	
	For family only		Yes
	Shared		Outside only
	None		No
	N.K.		N.K.
	N.A.		N.A.
Is there a W.C.?		Have you your own kitchen sink?	
	Indoor for family only		Yes
	Indoor, shared		No
	Outdoor, for family only		N.K.
	N.K.		N.A.
	N.A.		
Is the W.C.		Have you your own cooking stove?	
	Flush		Yes
	Chemical		No
	N.K.		N.K.
	N.A.		N.A.
Has patient his own room?			
	Yes (alone)		
	Yes (with spouse)		
	No		
	N.K.		
	N.A.		

## HOUSEHOLD

	(a)	(b)
62 (a) Number of persons in the household (excluding patient)		
None	0	
1	1	
2	2	
3	3	
4 +	4	
N.K.	X	
Hotel, Boarding House, Institution, etc.	Y	
62 (b) Number of persons in household aged 0-4 (excluding patient)		
None		5
1		6
2 +		7
N.K.		8
Hotel, Boarding House, Institution, etc.		9
63 (a) Number of persons in household aged 5-14 (excluding patient)		
None	0	
1	1	
2 +	2	
N.K.	X	
Hotel, Boarding House, Institution, etc.	Y	
63 (b) Number of persons in household aged 60-79 (excluding patient)		
None		5
1		6
2 +		7
N.K.		8
Hotel, Boarding House, Institution, etc.		9
64 (a) Number of persons in household aged 70 + (excluding patient)		
None	0	
1	1	
2 +	2	
N.K.	X	
Hotel, Boarding House, Institution, etc.	Y	

## HOUSEHOLD

	(a)	(b)
65 (a) Patient lives with:	Alone	0
	Spouse	1
	Child(ren)	2
	Parent(s)	3
	Parent(s)-in-law	4
	Other relatives	X
	Non-relatives	Y
65 (b) Is there a supportive group of family or friends?		
Patient lives with, or near, family group or close friends		5
Patient lives with, or near, spouse, one other relative, or close friend		6
Patient is isolated from family and friends		7
N.K.		8
N.A.		9



## HOUSING

		(a)	(b)
66 (a) Type of dwelling	semi-detached or detached	0	
	Flat	1	
	Terrace house	2	
	Temporary housing	3	
	Furnished rooms	4	
	N.K.	X	
	Other	Y	
66 (b) Is the house overcrowded?	No		5
	Yes		6
	N.K.		7
	N.A.		8
67 (a) Are there any housing problems?	No	0	
	Some	1	
	Several	2	
	N.K.	X	
	N.A.	Y	
67 (b) P.S.W.'s assessment of housing:	Superior		5
	Average		6
	Poor		7
	N.K.		8
	N.A.		9
68 (a) Length of time at present address:	Not usually resident	0	
	Less than 6 months	1	
	6 months-1 year	2	
	1-5 years	3	
	5-10 years	4	
	10 + years	X	
	N.K. or N.A.	Y	
69 (a) Length of time in district:	Not usually resident	0	
	Less than 6 months	1	
	6 months-1 year	2	
	1-5 years	3	
	5-10 years	4	
	10 + years	X	
	N.K. or N.A.	Y	

## FINANCE

	(a)	(b)
69 (b) Financial status of family:		
Good		5
Average		6
Poor		7
N.K.		8
70 (a) Patient's financial status in family group:		
Chief wage earner	0	
Contributory wage earner	1	
Self-supporting	2	
Statutory beneficiary	3	
Financially dependent	4	
N.K.	X	
Other	Y	
	(a) On referral	(b) On interview
71. Effect of patient's illness on family income:		
Little or none	0	5
Some	1	6
Considerable	2	7
N.K.	X	8
N.A.	Y	9

## EMPLOYMENT AND SOCIAL CLASS

		(a) On referral	(b) On interview
72. Employment:	Full-time	0	5
	Part-time	1	6
	Off work—job open	2	7
	Housewife	3	8
	Unemployed	4	9
	Retired	X	
	N.K. or N.A.	Y	
73. Effect of patient's illness on his employment:	No effect	0	5
	Threat or fear of loss of job	1	6
	Job lost	2	7
	N.K.	X	8
	N.A.	Y	9
74 (a) Schooling:	Special	0	
	Basic	1	
	Grammar	2	
	Public School or private education	3	
	N.K.	X	
	N.A.	Y	
74 (b) Further education:	None		5
	Apprenticed or technical training		6
	Advanced technical or professional		7
	University		8
	N.K.		9
75 (a) School leaving age:	Up to 15 years	0	
	16–17 years	1	
	18 + years	2	
	N.K.	X	
	N.A.	Y	
75 (b) Social status:	Class I		5
	Class II		6
	Class III		7
	Class IV		8
	Class V		9

Complete at interview

## INFORMANT. HEALTH ATTITUDES

What is your own health like? Good. Fair. Poor

How often have you been to see your doctor in the last three months?.....

Have you any of the following physical complaints?

<i>Some- Yes times</i>			<i>Some- Yes times</i>		
Feeling sick, nausea	. 2	1	Aches and pains in any		
Shaking or trembling	. 2	1	part of the body.	. 2	1
Swelling or stiffness of			Coughs	. 2	1
joints	. 2	1	Indigestion	. 2	1
Sleeping badly	. 2	1	Trouble with your water	. 2	1
Difficulty in movement	. 2	1	Headaches	. 2	1
Shortness of breath	. 2	1	Giddiness	. 2	1
	—	—		—	—
Score	.	.	Score	.	.
	—	—		—	—

Are any of these so bad as to interfere with your work and activities? Yes  
No

## M.P.I.

- (a) Do you sometimes feel happy, sometimes depressed, without any apparent reason? . . . . . 2 1
- (b) Do you prefer action to planning for action? . . . . . 2 1
- (c) Do you have frequent ups and downs in mood, either with or without apparent cause? . . . . . 2 1
- (d) Are you happiest when you get involved in some project that calls for rapid action? . . . . . 2 1
- (e) Are you inclined to be moody? . . . . . 2 1
- (f) Does your mind often wander when you are trying to concentrate? . . . . . 2 1
- (g) Do you usually take the initiative in making new friends? . . . . . 2 1
- (h) Are you inclined to be quick and sure in your actions? . . . . . 2 1
- (i) Are you frequently 'lost in thought' even when supposed to be taking part in a conversation? . . . . . 2 1
- (j) Would you rate yourself as a lively individual? . . . . . 2 1
- (k) Are you sometimes bubbling over with energy and sometimes very sluggish? . . . . . 2 1
- (l) Would you be very unhappy if you were prevented from making frequent social contacts? . . . . . 2 1
- Score . . . . . — —

Complete at interview

### INFORMANT. HEALTH ATTITUDES

What is the health of other household members like?

(Ask the same questions as for Informant but in less detail.)

*P.S.W.'s notes on Informant.* (Reliability and any relevant information about intelligence, personality, attitudes, etc.)

*What has been the attitude of patient, informant and anybody else concerned, to his illness?*

Do they consider it a mental illness? What do they think caused it? What treatment do they think appropriate? Did they mind seeing the psychiatrist, going to the hospital? What do they know about mental hospitals and mental illness? Has there been any fear of stigma?

*N.B.* Ask: How do you/would you feel about visiting a/the patient in Graylingwell/The Old Manor?

(Record here what is said about the *hospital*)

Reply:

## FAMILY HEALTH: INFORMANT: ATTITUDES

		(a)	(b)
76 (b) Health of informant:	Good		5
	Fair		6
	Poor		7
	N.K.		8
	N.A.		9
77 (a) Health of other household members:	Good	o	
	Fair	i	
	Poor	2	
	N.K.	X	
	N.A.	Y	
77 (b) M.P.I. Score:	0-5		5
	6-8		6
	9-12		7
	N.K.		8
	N.A.		9
78 (a) P.S.W.'s assessment of informant's reliability:	Reliable	o	
	Doubtful	i	
	Extremely suspect	2	
	N.K.	X	
	N.A.	Y	
78 (b) What sort of illness does informant think patient has?	Mental		5
	Nervous		6
	Physical		7
	N.K.		8
	N.A. (including 'not ill')		9
79 (a) Does the informant agree that the type of treatment patient is receiving is appropriate?	Yes	o	
	No	i	
	N.K.	X	
	N.A.	Y	
79 (b) Since referral to the psychiatrist is the patient:	Improved		5
	Same		6
	Worse		7
	N.K.		8
	N.A.		9

	(a)	(b)
80 (a) Does the informant think that anything could be done, in addition to present treatment, to help patient?		
Nothing	0	
Medical	1	
Social help	2	
Altered environment	3	
N.K.	X	
N.A.	Y	
80 (b) What has patient's attitude to psychiatric treatment been?		
Positive		5
Generally negative		6
Fear of admission		7
Other		8
N.K.		9
81 (a) What has patient's attitude to possibility of mental hospital admission been?		
Positive	0	
Fear of social stigma	1	
Fear of contact with other patients	2	
Other negative	3	
Too ill to realize	4	
N.K.	X	
N.A.	Y	
81 (b) What has informant's attitude to psychiatric treatment for the patient been?		
Positive		5
Generally negative		6
Fear of admission		7
Other		8
N.K.		9
82 (a) What has informant's attitude to possibility of patient's admission been?		
Positive	0	
Fear of social stigma	1	
Fear of contact with other patients	2	
Other negative	3	
Other	4	
N.K.	X	
N.A.	Y	
82 (b) P.S.W.'s assessment of informant's attitude to patient's illness		
Positive		5
Negative		6
N.K.		7
N.A.		8

	(a)	(b)
83 (a) What is the informant's attitude towards visiting the mental hospital?		
Very positive	0	
Reasonably positive	1	
Would accept it only as a duty	2	
Extremely negative	3	
N.K.	X	
N.A.	Y	
83 (b) What does informant think is the purpose of a mental hospital?		
Therapeutic		5
Mixed therapeutic and custodial		6
Custodial		7
N.K.		8
N.A.		9
84 (a) Is the informant satisfied with the hospital or does he complain about it at all? (Rate for inpatients only)		
Satisfied	0	
Suggests some improvements	1	
Minor complaints	2	
Serious complaints	3	
N.K.	X	
N.A.	Y	
84 (b) P.S.W.'s assessment of informant's attitude towards mental illness in general		
Positive		5
Negative		6
N.K.		7
N.A.		8
85 (a) P.S.W.'s assessment of informant's attitude to mental hospitals		
Positive	0	
Negative	1	
N.K.	X	
N.A.	Y	
85 (b) Do you prefer inpatient or outpatient treatment for patient?		
Outpatient		5
Inpatient		6
Satisfied with doctor's recommendation		7
N.K.		8
N.A.		9
86 (a) In what way would admission relieve your difficulties? (O.P.'s only)		
No difference	0	
Some relief	1	
Great relief	2	
N.K.	X	
N.A.	Y	



(a)	(b)
86 (b) In what way has admission relieved your difficulties? (inpatient's only)	5 6 7 8 9
No difference	
Some relief	
Great relief	
N.K.	
N.A.	9

(a)
87 (a) Does any member of the immediate family or household suffer from mental illness?
Yes, ill at present in treatment
Yes, ill at present not in treatment
Yes, in past treated
Yes, in past not treated
No
N.K.
N.A.
Describe briefly illness and type of treatment
.....
.....
.....
.....

# VII. Current Research Work in Psychiatric Epidemiology in the United Kingdom

by

Dr. K. RAWNSLEY

This paper was compiled from information gathered for the Medical Research Council's Committee on the Epidemiology of Psychiatric Illness. Copies will, it is understood, be made available by the Council on application.

# VIII. Some Targets for Future Epidemiological Research

by

Professor G. M. CARSTAIRS

As the present conference shows, interest in research on the epidemiology of mental disorders is very much alive in Britain today. In fact, there is more of this research going on now than at any time in the past.

Before turning to a consideration of the future tasks of psychiatric epidemiology, it may be of interest to recall some of the landmarks in this field of study.

When we look back over the years, we find one constantly recurring problem, which has prompted numerous inquiries; this is, the question whether mental illnesses increase *pari passu* with the technological development of society. Early last century Esquirol (1838) addressed himself to this problem, using the best available statistics of his day. He examined the hypothesis that the social turmoil of revolution and wars through which France had passed in the previous half-century had occasioned an increased incidence of mental breakdown, and found no evidence to support it; on the other hand he reported, in terms which have a familiar ring today, that 'in a 10-year period of survey at the Salpêtrière it has been observed that one-third of the women patients admitted have been cases of senile dementia, such as would formerly have been kept at home' (*ibid.*, Vol. I, p. 58).

In Britain, statistics of insane patients detained in premises licensed for the purpose have been kept since the passing of the Act to Regulate Madhouses, in 1775. In 1810 Dr. Richard Powell, who was then responsible for the maintenance of the register of such patients, read a paper at the Royal College of Physicians in which he reviewed the figures recorded during the previous thirty-five years in order to ascertain whether an increase in mental illness had occurred, and also, to see 'whether any analogy or connection could be established upon more solid grounds, between

the number of insane persons and the political circumstances of the times, or any known variations in the seasons of different years'. (Powell, 113, p. 132.) The greater part of his paper, however, was devoted to a very shrewd analysis of the deficiencies of the available data, both relating to the numbers of patients and concerning the populations at risk.

Later in the century more comprehensive statistics began to be published by the Commissioners in Lunacy—a function later taken over by the Board of Control, and in our own time by the Registrar General's office. Lockhart Robertson (1869) and Henry Maudsley (1872) made use of these reports when they addressed themselves in turn to the perennial question, and each came to the conclusion that apparent increases in the prevalence of insanity were attributable to more cases being declared when better provision for their care became available. Dr. Hack Tuke (1878) ranged more widely afield when he drew upon the statistics of insanity from several countries in order to make some guarded comparisons of their respective prevalence rates.

It is clear, therefore, that the problems with which we are concerned have excited curiosity and stimulated research for over 150 years; but hitherto this research has tended to raise more questions rather than to give definite answers.

Early in the present century the deputy superintendent of Morgannwg Hospital, Glamorgan (whose catchment area includes a substantial part of the South Wales coalfields) made a pioneer attempt to identify social factors related to the onset of psychosis. His study (Stewart, 1904) showed that over a period of twenty-nine years annual fluctuations in the rates of admission to that hospital and in the frequency of convictions for drunkenness corresponded closely with changes in the price of coal and with consequent changes in the wages earned in the mining valleys. Dr. Stewart reached the unhappy conclusion that when miners received increased wages and enjoyed more leisure in which to spend them, they responded by showing markedly increased propensities towards drunkenness, crime and insanity. His statistical analysis can now be seen to be naïve and open to criticism, but the attempt to formulate an ætiological hypothesis and to test it with quantitative observations commands respect.

It was at the turn of the century, too, that the leading Scottish psychiatrist of his day, T. Storer Clouston, carried out what was

perhaps the first field survey of mental disorder, when he investigated the family histories of three generations of people, in eighty-three families which comprised the greater part of a parish in one of the Orkney Islands. He was able to take advantage of his close personal knowledge of this community so as to include not only cases of epilepsy, idiocy, imbecility and frank psychosis but also milder forms of depression and abnormalities of behaviour 'neither of which would have been counted unsoundness of mind at all by an unscientific observer'. He found mental cases in no less than forty-one of the family histories which he studied in this way, and most of these families revealed multiple cases (Clouston, 1911). Dr. Clouston attributed this concentration of disorders to the high rate of intermarriage which prevailed in this remote community, whose physical characteristics marked them out as descendants of Norse invaders of a thousand years ago. In its rudimentary way, this study can be regarded as a forerunner of Böök's recent genetic and psychiatric survey of an isolated North Swedish population (Böök, 1953).

During the fifty years which followed these early studies, epidemiological surveys were few and far between. Important landmarks were E. O. Lewis's investigation into the prevalence of mental deficiency (published in the Wood Report, 1929), still unsurpassed in its scale and thoroughness; this was supplemented by the studies of genetic and environmental factors in mental deficiency carried out by Cyril Burt (1937), Penrose (1938) and Fraser Roberts (1952). Much additional information about factors influencing the distribution of educational backwardness has accrued from the two large Scottish surveys (Scottish Council for Research in Education, 1933; 1949; 1953).

In contrast to this activity in studying the correlates of mental backwardness, investigations into the prevalence of mental and emotional disorder were remarkably scarce. Important exceptions were the series of studies of neurotic illness in industrial populations, sponsored by the Industrial Health Research Board (Culpin and Smith, 1930; Wyatt, 1945) culminating in Russell Fraser's wartime survey (Russell Fraser, 1947).

During the same period, J. L. Halliday published his studies of psychoneuroses and psychosomatic disorders in insured persons (Halliday, 1935; 1948). The Second World War provided opportunities for a rough psychiatric screening of large populations,

both at the time of call-up and in the course of their war service: Urgent military requirements stimulated the application of epidemiological methods to studies of the incidence of prevention of psychoneurotic casualties (Air Ministry, 1946; Reid, 1948; Ahrenfeldt, 1958).

It was during the Second World War, also, that research workers from the Crichton Royal carried out the first British attempt at a systematic survey of mental handicap in a population of substantial size (Mayer-Gross, 1948).

The introduction of a truly comprehensive National Health Service has provided us with new opportunities for epidemiological research; but until quite recent years few attempts were made to exploit this situation in order to learn more about the distribution of psychiatric disorders. In July 1957 it was the writer's privilege to share in the organization of a conference, sponsored by the Medical Research Council, on the topic: 'The Social Sciences and Medical Research'. Of the forty-two doctors and social scientists who attended this conference, no fewer than seven were members of Sir Aubrey Lewis's Social Psychiatry Research Unit; this was only fitting because then, as now, that Unit had more doctors and social scientists engaged in collaborative studies than any other. What was surprising, however, was to note that only three other epidemiological studies in psychiatry were represented at the conference.

This was in fact the total of such research at that time.

Things are very different now, as Dr. Rawnsley's paper has shown. There can be little doubt that a major factor in the quickening of interest in this field of study has been the publication of the Report of the Royal Commission (1957) whose recommendations for radical change in the practice of the country's psychiatric services, embodied in the Mental Health Act, 1959, are now coming into force. This has created a demand for a re-evaluation of the whole problem in epidemiological terms; a demand, however, which was not entirely spontaneous in its generation. We owe a great deal to the work of Professor Denis Hill during his tour of duty on the Medical Research Council, and to that of Mr. Gordon McLachlan, the organizer of this conference for both advocating the need for more studies of this kind and providing the means whereby they could be done.

The first concern of most of the studies represented at this

meeting is one of fact-finding. We are still at the very beginning of the attempt to ascertain the true prevalence and incidence of psychiatric disorders in the community; and it may be that we shall all have to try our hands in our several field studies before we can fully appreciate how elusive these concepts 'true prevalence' and 'true incidence' really are. Perhaps the two greatest obstacles to reaching scientific precision in psychiatric epidemiology are the lack of objective criteria for diagnosis, and the difficulty which we often experience in determining the date of onset of these illnesses.

To these difficulties some writers would add a third, namely the multiplicity of ætiological factors. The demonstration, early in this century, of the role of the spirochæte in the ætiology of general paralysis of the insane sustained for some time the hope that a simple microbial or toxic ætiology would also be found for the major psychoses at least; but we have learned to resign ourselves to the probability that in the majority of functional psychoses and of neuroses multiple factors—genetic, biochemical and environmental—all play a part. This can actually be considered an advantage since, having had only a short honeymoon period with the bacteriologists and other advocates of a single, prepotent cause, we find it easier to accept the arguments of those latter-day medical epidemiologists who are drawing attention, in their several fields of inquiry, to the importance of complex interactions of factors in the host and in the environment (Burnet, 1953; Galdston, 1954; Dubos, 1960).

There is a danger, from the research point of view, in trying to investigate numerous interacting factors at the same time. This seldom results in the advancement of knowledge. It is preferable to hold constant as many factors as possible, either by matching or by using samples large enough to allow uncontrolled differences to be equally distributed in the groups to be compared, and then to focus attention on one or two variables at a time. This enables one to identify, and to some extent to measure, the contribution of successive elements in a complex situation.

For example, in follow-up studies it has been shown to be necessary to control for the major diagnostic categories, and for the patient's degree of recovery at the moment of leaving hospital, before the contribution of social factors to his subsequent outcome can be justly assessed (Brown *et al.*, 1958).

*PRIORITIES IN FUTURE STUDIES*

During the next few years, whether we like it or not, we are going to have to respond to urgent administrative demands for basic information about the mentally ill in the population, and their response to various treatment measures. These requirements have been well summarized by Kramer, M., Pollack, E. S. and Redick, R. W. (1959):

'It would seem necessary for administrators of the public mental hospitals to know what immediate and long-range effects the existence of varied facilities will have on the rates of admission, release and mortality of various categories of patients, on the needs for beds and physical plant, and on the types of therapeutic programmes that must be developed. For the psychiatrists developing psychiatric services in general hospitals it would seem necessary to know more about the types of patients being admitted to these services, the subsequent fate of the patients who undergo treatment in them, and their future treatment needs. For the director of community mental health programmes, it would seem necessary to have such data to assess how effectively these treatment programmes are reducing the burden of disability from mental disorders among the inhabitants of his area, what problems are being solved and what new ones are being created.'

These are tasks of operational research, which are crying out to be done. The ultimate aim of epidemiological research, however, is not merely to facilitate health administration but to contribute towards the elucidation of the ætiology of disease. Where this aim has been achieved in the past, it has usually come about through focussing attention upon a single disease entity, such as cholera or pellagra. In the present early stage of development of our psychiatric case-finding methods, the process of mounting field surveys is so laborious that we are reluctant to exclude any form of mental disorder; but if progress is to be made in the search for ætiological factors we must work towards the identification of particular clinical syndromes. As in other applications of epidemiology, it is essential that we test the validity and reliability of our techniques of case identification. This is less easy in psychiatry than in conditions where an objective indicator such as the Wassermann reaction or the Mantoux test can serve as a criterion; but there are conditions in general medicine, also, in which reliance has to be



placed on reported symptoms. A recent study of observer variation in the assessment of chronic bronchitis (Fairbairn *et al.*, 1960) presents a methodology which could very readily be adapted to test observer agreement in psychiatric surveys.

So far, few attempts have been made to study the reliability of psychiatric diagnosis, even under the favourable conditions presented by a full psychiatric examination; yet this is a necessary preliminary to an evaluation of the consistency with which survey workers can identify cases in the field. Perhaps the most systematic work yet to be published on this subject is in the report of Dr. Ernest Gruenberg's survey of cerebral arteriosclerosis and senile psychosis in the town of Syracuse (New York State Mental Health Unit, 1959, 1960). This study is noteworthy, among other things, for Gruenberg's stated preference for field interviewers who are *not* doctors or nurses, but who are trained for their task, and taught the technique of recording factual, objective indicators of disease. We can also look forward to a measure of psychiatrists' inter-observer variation in some of the current work of Dr. Sainsbury's unit (Kreitman *et al.*, 1961). More such studies are urgently needed, in order to test the reliability of our case-finding procedures.

Even when their degree of reliability has been established (and where necessary improved) these diagnostic procedures will still have to be tested for validity. This will not be easy, because one of the classical tests for the validity of psychiatric diagnosis is the evolution through time of the patient's complaint. Another method, as yet comparatively untried, consists in the empirical analysis of the phenomena which must be observed before a particular diagnosis is reached. The presence or absence of particular signs and symptoms can then be used as an operational definition of the syndrome which is being studied.

The validation of diagnoses against outcome brings us to the second major area of research-to-be-done. This is, the study of the natural history of different forms of psychiatric disorder. In one sense, every follow-up study in the literature is a contribution to this field of inquiry; but one has to remember that the phrase 'natural history of the illness' can be misleading. The course of a disease cannot be studied without reference to the social context in which it occurs, and this context contains factors—such as new drugs, new developments in treatment facilities, changes in public

attitude towards the illness—which can radically alter its outcome. In the writer's own professional lifetime new chemotherapies and antibiotics have radically changed the picture of organic disease in our country, a change shown perhaps most dramatically in the pneumonias, venereal diseases and tuberculosis. Already we have cause to ask ourselves whether the textbook accounts of the outcome of schizophrenia are not out of date; and the same may yet become true for the affective psychoses.

The follow-up of hospitalized cases however gives only a partial picture of any disease. This is where our current psychiatric prevalence studies give us an opportunity to improve upon existing knowledge by including those cases who have not reached medical attention. It is surely highly desirable that we should keep our files of all known cases, with a view to tracing their outcome in one, two, five or ten years' time. Of course, in a large scale all-inclusive survey the numbers become so considerable that it will be correspondingly difficult to trace patients in the follow-up period with that completeness of coverage (ideally, with not more than 5% losses) which is essential. This is another argument in favour of narrowing the focus of one's inquiry, if not in the first survey then at least in the follow-up, to particular groups of patients singled out by criteria of age and sex, and perhaps further by the presence of particular symptoms whose prognostic significance it is hoped to determine. Such prospective studies should always include a group of controls, matched so as to heighten the significance of any effects attributable to the variables which are being studied.

Two types of longitudinal study seem particularly worth while: one focussed upon young subjects passing through periods of rapid development—pre-adolescents, school-leavers and university students will each lend themselves to research which should produce results within a span of three to five years. The other topic, now much in vogue in certain American centres of research, is that of 'coping behaviour', studying the personal and social factors which enable one faltering neurotic to regain his stride while others remain more or less disabled. This is a form of study which might well be rewarding in Britain, where we are uncomfortably aware of the inadequacy of the psychiatric help which we can give to the millions of patients who present minor emotional disorders. We know already that neurotic patients on the waiting

list recover at almost the same rate as those whom we treat (Wallace and Whyte, 1959) but we do not yet know what factors contribute to their recovery. If we could at least get leads to some of these supportive factors, we might then be able to organize controlled trials in which we deliberately bring them into play, in order to see whether they do materially affect the patients' outcome.

Survey methods can suggest ætiological relationships but only deliberate experiment can verify them; it is theoretically attractive, though far from easy in practice, to propose that every psychiatric survey should lead to the formulation of ætiological (or therapeutic) hypotheses which should then be tested by a forward experiment.

It is the writer's view that the present tendency for psychiatric surveys to be all-embracing is due to our lack of experience with case-finding techniques, and our resulting concern lest some cases would be missed in a more narrowly focussed survey. We should therefore try to alter this situation by using the large-scale inquiry as an opportunity to test the efficiency of different methods of case-finding. Each 'inclusive' survey could contain within it a pilot study for a subsequent limited inquiry designed to ascertain, for example, all new cases of depression, or of epilepsy or of alcoholism occurring in a population during the survey year. None of these are simple conditions to define; hence the need is all the greater to construct operational definitions and to measure the degree of reliability with which they can be ascertained.

In the present stage of our work it is particularly important that all our studies should report in detail not only our results, but also the definitions used, the qualifications and *ad hoc* training of our interviewers and the details of their field procedure, and finally some measure of the reliability of their findings. The report of the Syracuse CASSP survey by Gruenberg's team is exemplary in these respects (New York State Mental Health Research Unit, 1959; 1960).

In planning future studies it may be profitable in some areas to combine forces with colleagues who are engaged in genetic research. During recent years chromosome identification techniques have advanced so rapidly that we may quite soon find ourselves equipped at last with an objective method of distinguishing populations with high genetic predisposition towards a particular

disease; this is more likely to be the case with severe psychotic illness than with neurotic or obsessional conditions, but even in the latter such help may eventually be forthcoming. Here twin studies, and investigations of isolated communities—while they last—can still pay dividends.

In our search for environmental factors contributing to the ætiology of illness, the study of the psychoneuroses and psychosomatic disorders is likely to prove the most rewarding, because these conditions are relatively sensitive to changes in the cultural environment. Here one might draw attention to two great missed opportunities. During the post-war years we have witnessed two nation-wide 'experiments of opportunity', namely the period of compulsory military service, and the coming of television. Both of these events must have made a profound impact upon the development of young people in our generation; neither has been given the amount of study it deserves.

There has been a tendency throughout the present century towards an acceleration of technological progress, and with it a wider diffusion of information and sophistication in the general public. One consequence of this could be seen already during the Second World War: very few soldiers were sufficiently simple-minded to be capable of presenting gross hysterical symptoms so common in 1914-18. In the next few years we can expect the symptoms of neurosis presented by the great majority of our patients (who come from Social Classes III, IV and V) to reflect the changing cultural influences to which they are exposed. It is difficult to bring these broad generalizations into a more precise focus. Perhaps what we require of our social psychologist colleagues is a series of measurements of attitudes whose strength may be shown to correspond to different rates of incidence of particular symptoms. A first step in this direction can be seen in a paper by Rosen (1956) in which he measured 'achievement motivation' in the members of the five social classes in Hollingshead's New Haven Survey. Another study, on similar lines, was that by Clark (1949) who distinguished patient's occupations in terms of economic status and also in terms of social prestige. The latter type of ranking, although it differed only slightly from the former, was found to show a significantly higher correlation with rates of hospitalization for schizophrenia, alcoholic psychosis, and 'other psychoses'; both these measures were equally significantly

related to rates of admission for G.P.I. and senile psychosis; neither one was correlated with rates of admission for manic-depressive psychosis. Perhaps these are the forerunners of new and more sensitive indicators of environmental ætiological factors.

This review of future needs in epidemiological research is necessarily incomplete and deliberately subjective. In order to emphasize the latter point, let me conclude by indicating three specific topics on which I hope to see research carried out within the next few years. First, the problem of psychiatric illness in the elderly. A number of studies have suggested that retirement from work is often followed by a deterioration in physical and mental health. If this is true, we have here an opportunity to carry out prophylactic experiments, either of 'tapering off' from full working routine, or of providing some regular occupation for their leisure time, and to study whether the health of the elderly people included in such régimes differs significantly from that of their fellows who find themselves in unaccustomed inactivity.

Secondly, the question of mental illness in immigrant groups, particularly in cities where there are sizeable communities of West Indians, Indians or Pakistanis. In order to overcome the inevitable sensitiveness of these groups to being singled out for study, it would be desirable that this task should be carried out by colleagues, both psychiatrists and social scientists who come from the same country as patients. This would incidentally serve as a form of training in research method which may later stand them in good stead.

Thirdly, I should like to see more systematic studies of the community of which we have all at one time been members, namely of university students. There is reason to believe that in several of our universities a good deal of psychiatric illness goes undetected, with consequences which are distressing and at times disastrous for the student. In the absence of thorough investigation, the true dimensions of this problem cannot be known—it is possible that it has been exaggerated. A study of this question will be worth while not only for the recognition and relief of student mental illness, but also because it can be a means of convincing our colleagues in the teaching centres of the usefulness of psychiatric epidemiology.

There is clearly a great deal waiting to be done in this area of research. It is to be hoped that the knowledge and experience

gained by members of the research groups represented at this conference will find fruitful employment in this field for many years to come.

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