DIAGNOSTIC CHANGE IN A LONGITUDINAL STUDY OF PSYCHIATRIC PATIENTS

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INTRODUCTION

This paper describes an investigation into the reasons for change in diagnosis in a group of 200 mental hospital patients who were admitted to hospital four times in two years. The cohort consists of the 44,047 patients in England and Wales who had their first admission in 1954, and 46,238 similarly admitted in 1955. The first two years of their progress has already been described in detail (Brooke, E. M., 1963), and further reports are in progress.

This longitudinal study of mental hospital admissions was made possible by the system for collection of mental hospital information that existed in England and Wales between 1949 and 1960. In every mental hospital during this period, a standardized form was completed for every admission and every discharge, and forwarded to the General Register Office. The resulting body of longitudinal information is of great interest both administratively and psychiatrically, even though out-patient treatment, private treatment, and admissions to psychiatric wards within general hospitals are not included, so that it does not necessarily constitute a complete psychiatric history of the patients concerned. From such a cohort study, information on admission, discharge, and readmission rates in relation to such variables as age, sex, marital status, social class and occupation can be obtained which is vital for the making of hospital plans and policies.

The presence of a hospital psychiatric diagnosis on each admission and discharge form raises the possibility of using these cohort studies for more specific psychiatric purposes, but before doing this it is necessary first to consider the question of the reliability and quality of these diagnoses. The diagnostic statements made were necessarily brief, and were usually expressed in the terms of the International Classification of Diseases. Examination of the successive diagnoses of those cohort members with re-admissions showed a surprisingly large number of diagnostic changes, often over quite short periods of time, and this paper reports an investigation into some of the possible causes for these changes.

The magnitude of the problem is shown by Table I, which shows the large number of diagnostic changes in a specially selected subgroup of this 1955 cohort.

The 293 patients in this table are all those who were first admitted to a mental hospital in the second half of 1955, and who were subsequently re-admitted three times within the next two years. The period of two years might be expected to set some limit to the number of separate disorders from which the patients could suffer, but at least according to the statistical returns from the mental hospitals upon which Table I is based, this was not so.

Table I(a) shows that only 20 per cent. of this group of 293 patients kept the same diagnosis, using 4-digit I.C.D. categories where they were given. In Table I(b) 3-digit categories are used for schizophrenia and manic-depressive psychosis so as to remove some of the less important changes, but still only 37 per cent. of the 293 patients retained the same diagnosis throughout the four admissions.

The possible reasons for recorded changes of diagnosis in these patients can be put into three main groups:

(i) The patient may develop a different mental illness unrelated to previous ones. The longer the time interval the more likely this becomes, but with an interval measured in months, as in these patients, this might be expected to be rare.
(a) The patients may show a changing clinical picture due to the natural progression of one basic illness through different stages. This is well known, but not very common, the best example being provided by patients who present with affective symptoms some months or even years before becoming unarguably schizophrenic.

(b) The patient may be largely unchanged, and the recorded change in diagnosis may be an artefact of the recording system through which the information has to pass, for instance:

(i) Different psychiatrists may elicit different samples of the patient’s available signs and symptoms.

(ii) Different terms may be used to record the same clinical phenomena on different occasions, by the same or by a different psychiatrist.

(iii) The terms used on different occasions may belong to different systems of classification, and attempts to equate them may produce spurious diagnostic changes.

Previous work in this field does not throw much light upon the relative importance of these possibilities. The psychiatric literature on the diagnostic process deals almost entirely with the reliability of diagnostic procedure between observers operating either simultaneously or within as short a time interval as possible. (e.g. Beck et al., 1962, Kreitman, 1961, Sandifer et al., 1964). Only the studies by Kaelbling and Volpe (1963) and Barbigian et al. (1965) deal directly with diagnostic changes in a longitudinal study.

Barbigian and his colleagues (Barbigian et al., 1965) studied the diagnostic changes in a two-year follow-up study of 1,215 patients on the Monroe County Psychiatric Case Register, but the very different nature of their study to the present one makes it impossible to make any close comparisons. The contacts with the psychiatric services at which diagnoses were made in their study were not necessarily hospital admissions, but varied from brief visits to a private psychiatrist to long stays in alcoholic units, and 815 of these 1,215 patients were seen for the second time within one week of the first contact. The closest comparison that can be made is in the group of 155 of those patients who had four contacts with the Psychiatric Case Register in the two-year period; of these, 51 per cent. had a change in diagnosis (between the broad categories of Schizophrenia, Affective Psychosis, Chronic Brain Syndrome, and “Other”). This figure is in the same order as the 63 per cent. of patients in the present study (see Table I) who had a change in diagnosis between the I.C.D. 3-digit categories. Barbigian and his colleagues did not attempt to study the effect of change of doctor upon the changes of

<table>
<thead>
<tr>
<th></th>
<th>(a) I.C.D. 4-digit categories</th>
<th>(b) I.C.D. 3-digit categories</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Patients</td>
<td>Patients</td>
</tr>
<tr>
<td></td>
<td>Number</td>
<td>%</td>
</tr>
<tr>
<td>Total Number Of Diagnoses</td>
<td>1</td>
<td>60</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>125</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>88</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>20</td>
</tr>
<tr>
<td>Total</td>
<td>293</td>
<td>100%</td>
</tr>
</tbody>
</table>

(Using I.C.D. 3-digit categories for Schizophrenia and Manic-Depressive Psychosis in Section (b))
diagnosis, but purposely excluded from some of their tables the small minority of patients who happened to see the same doctor twice; neither did they attempt to make a standard assessment of the case notes so as to minimize the effect of change of doctor. (They do, however, make an interesting comment that the setting in which the patients were seen appeared to have some effect upon the diagnostic terms used; for instance, patients called "psychotic" whose first contact was with the public services were less likely to be so labelled on their second contact if this was as a private patient.)

Kaelbling and Volpe (1963) investigated the psychiatric diagnoses of 218 consecutive readmissions to the same hospital in a seven-year period; 164 of these had two admissions, 49 had three, 10 had four, and 4 had five admissions, (total of 508 admissions). They found a surprising amount of diagnostic change, even in their most constant group of "all schizophrenic reactions, plus schizoid personality"; for instance, out of 126 readmissions of patients previously put into this group, only 87 were given this diagnosis again. Schizophrenic reactions and depression were most constant, and personality disorders and psychoneuroses were least constant. Unfortunately they were not able to study the effect of change of doctor upon the likelihood of change in diagnosis, since very few were seen by the same doctor or group of doctors more than once. Since the hospital is a centre with continuous exchange of views in a teaching setting, they concluded, perhaps rather optimistically, that differences in concepts used by different diagnosticians were probably not an important influence in producing the diagnostic changes. They remark that the reasons for the changes found could lie "with the lack of precision in our diagnostic concepts, with their inadequate use by the diagnosticians, with genuine changeovers of patients from one diagnostic category to another, or with any combination of these possibilities."

In view of the lack of information on the relative importance of the possible reasons for diagnostic changes it was decided to study the case-notes of the group of 293 patients from Miss E. Brooke's cohort study referred to above.

Method

Since the case-notes were in mental hospitals scattered all over England and Wales, the method was to borrow the case-notes, and submit them to a uniform assessment by one psychiatrist (J.E.C.). This assessment will be referred to subsequently as the "Standard Diagnosis", but it must be emphasized that this procedure cannot really be regarded as producing another diagnosis which can then be compared on equal terms with the hospital diagnosis. It is better regarded as a uniform assessment of the information contained in the case-notes; the patient can only be seen through the eyes of whoever recorded the admission, and this uniform assessment merely ensures that similar descriptions receive similar labels. The Standard Diagnosis was made for each admission separately, in the order in which they occurred, and using only the information contained in the case-notes referring to each individual admission. Information about previous admission was only used when there was an indication in the notes that these had also been available to the hospital psychiatrist. The criteria used for making the Standard Diagnosis are given in Appendix II.

A pilot study was first carried out on one-sixth of the 293 patients. Requests for their case-notes were sent to the mental hospitals concerned, and an encouraging measure of co-operation was obtained; 48 out of the 49 sets of case-notes were borrowed, and 45 were in a sufficiently organized form to allow some sort of assessment. In order to reduce the number of case-notes to a minimum, not all of the original 293 were borrowed. It was noticed that in the pilot group, whenever all four hospital diagnoses were all the same, and all were either Manic Depressive Psychosis or Schizophrenia, the Standard Diagnosis agreed in practically every case, and the information about the third and fourth admissions was usually very scanty. Only one-quarter of the case-notes of this type were subsequently sent for, since their examination produced virtually no information about reasons for change in diagnosis. This gave a total of 241 patients whose case-notes were
requested, and a final total of 200 patients with case-notes both available and suitable. The reasons for losing the 41 patients were:

Four hospitals refused to co-operate, 9 patients Notes could not be traced .......... 11 patients Notes rejected after examination as incomplete or too scanty for any assessment .. 21 patients

**Method of Study**

Since one of the points being investigated was the relationship between change of doctor and change of diagnosis, it was desirable to have the judgment as to which doctor was responsible for the admission diagnosis made as independently as possible from any judgment which would determine whether the diagnosis had changed. The procedure adopted was to have the identity of the doctor concerned recorded by a clerical assistant (Miss E. Pond, of the G.R.O.) who was familiar with psychiatric terms, but who was without medical or specialist knowledge; she also recorded the admission diagnoses. The psychiatrist making the uniform assessment of the admission diagnoses, and also translating the admission diagnoses into I.C.D. terms when necessary (J.E.C.), agreed to accept the judgment made as to which doctor was concerned unless he disagreed very strongly, when the matter was resolved by discussion. In fact, since in the great majority of the admissions there was only one attempt in the case-notes to give a full description of the mental state, such discussion was only necessary in two or three cases out of the 200, and it is very unlikely that any bias was introduced by not having completely separate judges.

The case-notes were then given a rating for completeness of information. The notes made by Miss Pond were also checked, and any points of disagreement resolved by discussion. Where there was a reasonable amount of information, it was possible to make a "standard diagnosis". In all those rated as "bad" notes, however, to say that the standard diagnosis agreed with the hospital diagnosis is really to say that there were no grounds presented for disagreement. (An example of this would be hospital diagnosis of "Paranoid Schizophrenia"

with only general statements in the notes such as "the patient is deluded, hostile and paranoid", and no specific descriptions of the nature of the delusion or paranoid features).

**Definition of "Change in Diagnosis"**

The I.C.D. system needs modification before it can be used satisfactorily for recording changes in diagnosis. For instance, taken as it stands, even if only changes between three-digit categories are used, a change from 303 (paranoid state) to 312 (hysteria) that means a great deal clinically is given the same status as a change from 312 (phobic reaction) to 310 (anxiety state), which may mean very little clinical change. For this reason, and also for economy of space in recording the coded information, the I.C.D. categories were divided into eight groups:

1. Schizophrenic
2. Affective
3. Neurotic
4. Personality disorder
5. Addictive
6. Senile organic
7. Other organic
8. Miscellaneous

(See Appendix I for the detailed composition of these groups.)

The changes of diagnosis referred to subsequently in this study are changes between these groups, which are taken to be major changes.

The only controversial point about these groups is that the "Affective Group" included "Neurotic Depressive Reaction" (314) as well as all varieties of manic-depressive psychosis and involutional melancholia. This was done mainly because it was very obvious from a preliminary look at the pilot study case-notes that the terms "Reactive Depression", "Neurotic Depressive Reaction", "Depressive Reaction", and "Depression" were used more or less interchangeably, and in many instances the written terms appeared to have been allotted a code number by someone other than the diagnosing doctor. It was also done partly because of the writer's own preference for regarding most illnesses that are given the label "Neurotic Depressive React-
tion" in this country as a sub-group of "Affective Illness".

The following information was recorded for each admission:

1. The Standard Diagnosis (a. Main, and b. Subsidiary, if required). The criteria upon which the Standard Diagnoses were based are given in the Appendix 2).

2. The hospital diagnosis for each admission. This was copied verbatim, including any qualifying remarks. The I.C.D. code numbers and terms were also copied where given, and when not in the notes, this was copied from the G.R.O. records. A Main Diagnosis and, if given, a Subsidiary Diagnosis was recorded for each admission.

3. The identity of the doctor making each diagnosis. If this was not given, then his initials were recorded, or a copy of his signature if all else was absent or illegible. Where there were no signatures or initials, any changes in doctors were judged by comparing the handwriting from different admissions within the same hospital. Professional qualifications or years of experience of the doctors concerned could not be brought into the analysis, for the names of a large proportion of the doctors could not be identified from the hospital notes, even though it was usually quite easy to detect continuity of care from the handwriting and signatures.

4. The usual information for each patient and each admission, such as notes on treatment and outcome. (In the pilot study, provision was made for recording the patients' family history, work history, previous personality and personal history, but these were found to be present in any useful detail so rarely that in the main group no further attempt was made to record this information.)

This information was used to attempt to answer the following questions:

1. To what extent does the use of the Standard Diagnosis and the eight diagnostic groups reduce the number of changes in diagnosis, compared to the use of the hospital diagnosis and the conventional I.C.D. categories?

2. Is there a relationship between change of diagnosis and change of doctor and if so, in what type of patient is this most evident?

3. What are the characteristics of those patients in whom there is some recorded evidence of clinical change, i.e. those with a change in the Standard Diagnosis?

Quality of Case-Notes:

This investigation relies upon information recorded in routine mental hospital case notes, so a comment upon the quality and extent of these notes must be made before discussing the results. All the case-notes were graded as "good" "moderate", or "bad" by the following criteria:

Good containing descriptions of the patient's previous personality, present illness and present mental state, in sufficient detail to show upon what grounds the hospital diagnosis was based, and also containing some information from a source other than just the patient.

Moderate containing descriptions of the present illness and present mental state in sufficient detail to show upon what grounds the hospital diagnosis was based.

Bad containing nothing but general statements, and no details to show how the hospital diagnosis was made.

For the first admissions, 9 per cent. of the notes were judged to be "good", 72 per cent. "moderate", and 19 per cent. "bad", and these proportions were similar in all diagnostic categories except the Neurotic group, which had 40 per cent. of the notes rated as "bad".

For the purposes of this study, this was taken to be satisfactory, since it showed that in about 80 per cent. of the cases some comment could be made on at least the major clinical manifestations upon which the hospital diagnosis had been made. However, when expressed the other way round—about one-fifth of the mental hospital notes so scanty as to be almost useless as a clinical record—it can only be hoped that this will improve in the future.

Anyone dealing with a large number of hospital case-notes is usually struck by the
extraordinary variety of the quality of the information in them, and by the different ways in which different doctors use the same terms. In this study, it was easy enough to find examples of the same doctor using different terms on different occasions to describe what seemed to be the same clinical phenomena.

RESULTS
1. The Effect of Using the Standard Diagnosis

Table II shows the 200 patients grouped according to their most frequent diagnosis, first in (a) using the Hospital Diagnosis, and secondly in (b) using the Standard Diagnoses.

The headings of the columns refer to the eight major diagnostic groups mentioned above. This Table is most easily understood by looking first at the totals of the columns, which indicate the numbers of patients whose most frequent diagnosis was in the appropriate diagnostic group, (no patient had four different diagnoses on this method of grouping). It is evident that the use of the standard diagnosis in II(b) has not radically changed these totals when they are compared with those of the Hospital Diagnoses in II(a). The differences that do exist are due to a move into the Affective group by a few patients from each of the Schizophrenic, Neurotic, and Personality groups. This overall similarity, although found when using a crude summary label, is encouraging in that it suggests that the diagnostic criteria used in the Standard Diagnosis must be similar to those used by a good many of the mental hospital psychiatrists. Examination of the totals of the rows, however, shows a marked decrease in Table II(b) in the number of diagnostic changes. In Table II(a), 54 per cent. of the patients keep the same diagnosis throughout, compared to the 37 per cent. already noted in Table I. When the Standard Diagnosis is used, in Table II(b), this rises to 81 per cent., and the proportions having two diagnoses fall from 27 per cent. to 13 per cent.; similarly, the proportion with three diagnoses falls from 19 per cent. to 6 per cent. This shift is derived from all the groups to some extent, but is most marked in the Affective group, where
almost twice as many patients keep the same diagnosis by the Standard diagnoses compared to the Hospital diagnoses.

Thus, the use of a Standard diagnosis and broad diagnostic categories greatly reduces the number of diagnostic changes recorded. It seems that the most frequent diagnosis is the best one to use as a label in patients with a changing diagnosis over several admissions.

2. The Relationship between Change of Doctor and Change of Hospital Diagnosis

The simplest way of investigating any such relationship is to tabulate the 200 patients by number of different diagnoses against number of different doctors. This is done in Table III, and it is evident that a patient who keeps the same doctor for all four admissions is very likely to keep the same diagnosis, whereas if a patient has more than one doctor the chances are about even that there will be a change in diagnosis.

**Table III**

<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>One Doctor</th>
<th>More than one Doctor</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diagnosis</td>
<td>25</td>
<td>8</td>
<td>33</td>
</tr>
<tr>
<td>No diagnosis</td>
<td>86</td>
<td>81</td>
<td>167</td>
</tr>
<tr>
<td>Total</td>
<td>111</td>
<td>89</td>
<td>200</td>
</tr>
</tbody>
</table>

\[ \chi^2 = 5.62 \text{ (with Yates's correction)} \quad p < 0.05 \]

This method, however, is very crude, and takes no account of the coincidence of change in diagnosis with change in doctor. To do this, we must consider not the individual patients, but put together all the re-admissions and tabulate coincidence of change in doctor against a change in diagnosis since the last admission. Table IV shows the 600 re-admissions in this way, and there is an even more significant relationship between change of doctor and change in diagnosis.

It is important to see if any particular type of patient contributes particularly to this relationship, and for this purpose these 200 patients may be divided into three groups:

1. Those patients with any Hospital diagnosis in the Neurotic, Personality disorder or Addictive group. In these the effect of change in doctor upon change in diagnosis might be expected to be most marked (27 patients).
2. Those patients with no Hospital diagnosis in the Neurotic, Personality or Addictive groups, and whose diagnosis changes between the Schizophrenic, Affective or Organic groups. In these, the effect of change in doctor upon change in diagnosis might be expected to be less marked (71 patients).
3. The remaining patients, with all four Hospital diagnoses in the Schizophrenic, Affective, Organic or Senile groups.

Table V shows the coincidence of change in doctor and diagnosis in the 81 re-admissions of the 27 patients with one or more diagnoses in the Neurotic, Personality disorder or Addictive categories.

There is a significant relationship in Table V between change in diagnosis and change in doctor, in contrast to Table VI which sets out the 213 re-admissions of the 71 patients whose diagnosis changed only between Schizophrenic, Affective or Organic categories.

In Table VI, the large proportion of re-admissions in which change of doctor and diagnosis coincide is cancelled out by the large
TABLE V
Coincidence of Change in Doctor and Diagnosis in Patients with 3 Re-admissions

Patients with one or more diagnosis in Neurotic, Personality Disorder or Addictive Categories
27 Patients—81 Re-admissions

<table>
<thead>
<tr>
<th>No change in diagnosis</th>
<th>Change in diagnosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>No change in Doctor</td>
<td>31</td>
</tr>
<tr>
<td>Change in Doctor</td>
<td>24</td>
</tr>
<tr>
<td></td>
<td>55</td>
</tr>
</tbody>
</table>

\[ x^2 = 4.94 \text{ (with Yates's correction)} \quad p < 0.05 \]

TABLE VI
Coincidence of Change in Doctor and Diagnosis in Patients with 3 Re-admissions

Patients with one or more change of Diagnosis between the Schizophrenic, Affective or Organic Categories
71 Patients—213 Re-admissions

<table>
<thead>
<tr>
<th>No change in Diagnosis</th>
<th>Change in Diagnosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>No change in Doctor</td>
<td>39</td>
</tr>
<tr>
<td>Change in Doctor</td>
<td>58</td>
</tr>
<tr>
<td></td>
<td>97</td>
</tr>
</tbody>
</table>

\[ x^2 = 1.59 \text{ n.s.} \]

The proportion of admissions where a change of doctor was not accompanied by a change in diagnosis. Also evident here are some admissions belonging to a small group of patients who changed diagnosis on re-admission although returning to the same doctor. These are mainly derived from the patients whose Standard Diagnosis also changes, from “Depression with paranoid features” to “Paranoid Schizophrenia”, who are commented upon later.

The re-admissions of those patients in group 3 above whose diagnosis remained in the Schizophrenic, Affective or Organic categories throughout had about a 50:50 chance of also having a change of doctor: 102 patients had 306 admissions, of which 145 had a change of doctor and 161 had no change of doctor.

A striking aspect of all these tables is the large number of changes of doctor. This is presumably in part a reflection of the large turnover rate (both within and between hospitals) found in the junior posts of mental hospitals, for the diagnoses upon which this investigation and most of the G.R.O. records are based are made by the more junior psychiatrists in charge of the day-to-day care of the patients, rather than by the more permanent and senior consultants.

Although not directly making the diagnosis in the case-notes, the permanent mental hospital consultants might make their presence felt by teaching their juniors particular diagnostic habits. This might be expected to produce fewer changes in diagnosis when the patients changed doctor within the same hospital than when there was a change of both doctor and hospital together. Subdivision of those admissions having a change in doctor by the additional occurrence of change in hospital, as in Table VII, however, shows that a change in hospital as well makes a change in diagnosis rather more likely, but this effect does not reach a significant level.

Reasons for Change in the Standard Diagnosis

The Standard Diagnosis changed at least once in 38 of these 200 patients. In 6 of these 38, the case-notes were rated as “bad”, which means that there was no way of judging in any detail whether their clinical state had changed or not: the Standard Diagnosis changed largely because there was insufficient description to allow disagreement with the changing Hospital Diagnosis. These 6 patients are not considered further.

The fact that there was a change in the Standard Diagnosis in the remaining 32 patients means that there were clear descriptions in the case-notes of a change in the type of symptoms, and although we cannot be sure that these descriptions are necessarily complete, it is still of considerable interest to examine this group of patients in more detail to see if they have any characteristics in common.
There stands out first of all a fairly obvious and expected group of 17 patients who had a final diagnosis of Schizophrenia. Of these 17, 13 had a mention of schizophrenic features in the subsidiary diagnosis of the admission before the main diagnosis changed to Schizophrenia, the commonest type being a change from depression with paranoid features to paranoid schizophrenia.

This same theme of an earlier subsidiary diagnosis becoming the later final diagnosis runs through other patients in these 32 in addition to the finally schizophrenic ones, and in fact applies to 20 out of the 32.

An additional sub-group of 6 patients is worth noting since they fit in with the clinical impression that patients with abnormal personalities often have complex and changing mixtures of symptoms; these 6 had one or more mentions of “abnormal personality”. Three of them were at first labelled mentally deficient and finished up with a diagnosis of schizophrenia, and 3 changed between “unstable” or “vulnerable” personality and affective illness.

Of the remaining 6 patients whose Standard Diagnosis changed, one was a man of 57 who apparently had a stroke unconnected with his previous admission for a depressive illness. Two others had complex mixtures of symptoms, and it was not easy to decide which category to put first on any occasion. There are then only 3 patients left in whom there was an apparently straightforward and unheralded change between the Schizophrenic and Affective categories. These were as shown in the table below.

The conclusions to be drawn about probable changes in clinical state in this admittedly rather unusual group of patients may be summarized as follows:

(1) There was definite evidence in the case-notes of a change in clinical state in 32 patients out of the 200 whose case-notes were examined. It is very unlikely that the sampling of patients with no change in the Hospital Diagnoses mentioned earlier led to the loss of any whose Standard Diagnosis would have changed, so these 32 represent very roughly 10 per cent. of the original 293 patients.

(2) In two-thirds of these patients (i.e. 20) there was a forewarning of the final diagnosis, in that it had appeared in one of the earlier admissions as a subsidiary diagnosis. The commonest sequence of this type was “Depression with Paranoid features” turning to “Paranoid Schizophrenia”.

<table>
<thead>
<tr>
<th>1st Standard Diagnosis</th>
<th>2nd Standard Diagnosis</th>
<th>3rd Standard Diagnosis</th>
<th>4th Standard Diagnosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>A woman of 28</td>
<td>Schizophrenia</td>
<td>Schizophrenia</td>
<td>Depression</td>
</tr>
<tr>
<td>A woman of 18</td>
<td>Hypomania</td>
<td>Hypomania</td>
<td>Hypomania</td>
</tr>
<tr>
<td>A man of 36</td>
<td>Depression</td>
<td>Paranoïd schizophrenia</td>
<td>Paranoïd schizophrenia</td>
</tr>
</tbody>
</table>
There was also a small group of 6 patients who had frequent mention of “Personality disorder”, as either a main diagnosis or a subsidiary diagnosis.

In only 3 patients was there an apparently straightforward and unheralded change between Depression and Schizophrenia.

These conclusions suggest very strongly that the majority of the frequent diagnostic changes appearing in mental hospital records are not due to major changes in the clinical state of the patients, but are largely artefacts of the diagnostic and recording procedures.

**General Discussion**

In spite of being based upon the unsatisfactory method of retrospective examination of case notes, this investigation shows how important it is to improve and standardize the recording and classifying of clinical data if derived statistics are to be of much use. As long as official statistics are based upon unstandardized records made by psychiatrists of different training and diagnostic habits, they can only be regarded as giving approximate indications of the clinical state of the patients; to do even this, larger and fewer groupings than those of the present I.C.D. 3-digit categories must be used. (Present day mental hospital statistics have, of course, many uses essential to hospital organization and planning for which the diagnoses of the patients are not necessary, and the shortcomings of the mental hospital returns that are emphasized here only refer to this clinical aspect). The question arises whether large-scale national statistics can ever be collected in a way that would sufficiently reduce the numerous sources of error for them to be regarded as useful epidemiological data.

The most commonly offered remedy for this unsatisfactory state of affairs, which is an even greater problem internationally (Kramer, 1964), is the universal use of an agreed system of diagnostic terms, all unambiguously defined in detail. Anyone who has experience of working towards this end will know the variety of difficulties that can arise (e.g. Stengel, 1959), and presumably the best that could be expected would be for psychiatrists to use an agreed system of terms for making observations which would be used for statistical purposes, while still using their own favourite system for everyday purposes. This would go some way towards removing some of the more startling curiosities that can be found at the present time when international comparisons are made. As Kramer points out, for instance, the mental hospital admission rate in England and Wales for “Manic-depressive Psychosis” in 1956–57 was 14 times that in the U.S.A.; presumably this difference would diminish if standard terms were used to describe both sets of patients.

Even if an internationally acceptable classification and glossary is produced, individual differences of interpretation of agreed standard terms can still be quite large, and the effect will be to increase communication and point out the most profitable areas for further detailed study rather than to produce statistics which can be used themselves as a basis for epidemiological conclusions. The only way to minimize the observer differences which lie at the root of many of these problems is for the actual elicitation and immediate recording of the clinical phenomena to be done in a standardized way. The degree of detail necessary in the clinical information recorded will naturally vary according to the purpose for which it is being collected, as will the amount of training necessary to produce satisfactory reliability in the particular type of standardized method being used. The psychiatrist concerned, or anyone else, can then summarize or interpret the clinical record in any manner they please for their own purposes, but the original observations remain unaffected and can be compared with observations made in the same way elsewhere on other patients. Within the last few years, there has been an awakening of interest in the “biometric” approach (e.g. Zubin, J., 1958; Burdock et al., 1960; Spitzer, R. et al., 1964; Wing, J. et al., 1966), but the present position can still only be regarded as a promising beginning.

This type of approach to the study of the diagnostic process highlights immediately a variety of fundamental problems in need of study, which can be briefly outlined by asking two questions. First, under what conditions and
by what means can different types of clinical observations be recorded reliably? Second, to what extent does the amount and type of information used in the choosing of a psychiatric label vary according both to the psychiatrist and to the psychiatric condition concerned?

Until something is known about the answers to these and many related questions, our knowledge of the natural history and epidemiology of psychiatric illnesses will continue to rest upon a shaky foundation.

Summary

In Miss E. Brooke's cohort study of patients first admitted to mental hospitals in England and Wales in 1955, a surprising number of changes in diagnosis were recorded in those patients who had several re-admissions within a few years of their first; for instance, of 293 patients with a total of four admissions in two years, only 37 per cent. retained the same diagnosis throughout the four admissions (using the I.C.D. 3-digit categories).

To investigate the reasons for these changes the case-notes of 200 of these patients with four admissions in two years were borrowed from the mental hospitals, and a "Standard Diagnosis" was made by one psychiatrist. For the purposes of simplifying change in diagnosis, the I.C.D. 3-digit categories were divided into eight groups (Schizophrenic, Affective, Neurotic, Personality Disorder, Addictive, Organic, Senile Organic, Miscellaneous), and the changes in diagnosis studied were changes between these major groups.

When the changes of hospital diagnosis were re-tabulated by these larger groupings, the number of patients keeping the same diagnosis rose to 54 per cent. When the Standard Diagnosis was used in addition, 81 per cent. of patients kept the same diagnosis throughout.

Using the label of "most frequent diagnosis", the distribution of the patients between the diagnostic groups was fairly similar for both the hospital and the Standard Diagnosis, but with a slight tendency for an increase in the number of patients in the Affective Group, using the Standard Diagnosis.

There was a significant relationship between the coincidence of change in doctor with changes in diagnosis when the re-admissions of these patients are examined, and this was particularly so in those patients with one or more diagnoses in the Neurotic, Personality Disorder or Addictive Groups.

There were 32 patients in whom there was evidence in the case-notes of a marked change in clinical state, i.e., who had a change in their Standard Diagnosis. Seventeen of these had a final diagnosis of Schizophrenia, and most of these were of the pattern "Depression with paranoid features" becoming "Paranoid Schizophrenia", which agrees well with clinical impressions.

It is concluded that, apart from this last small group, most of the changes in the hospital diagnosis were probably not due to changes in the clinical state of the patients. The experience gained by examination of these case-notes suggests that the actual clinical observations must be elicited and recorded in a standardized manner before hospital statistics can be obtained which will give reliable information about the clinical state of the patients.

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References


APPENDIX I

Diagnostic Index

For convenience and brevity of coding, all the relevant diagnoses in the I.C.D. are divided into 3 groups, and each I.C.D. diagnosis can be identified by two numbers: (i) the number of the group in which it is placed, and (ii) its number within that group.

A. Main Diagnosis

1. Schizophrenic Group

I.C.D. Nos.

300.0–300.7 Simple, hebephrenic, catatonic, paranoid, acute reaction, latent or residual, schizo-affective, other and unspecified.

303 Paranoid and paranoid states.

2. Affective Group

I.C.D. Nos.

301.0–301.2 Man-dep. Reaction, manic and circular, depressive, other.

302 Involutional Melancholia

314 Neurotic Depressive Reaction

309 Psychosis N.O.S.

3. Neurotic Group

I.C.D. Nos.

310 Anxiety Reaction

311 Hystera

312 Phobic Reaction

313 Obsessive-Compulsive Patients

315 Psychoneurosis with circulatory

316 Somatic symptoms alimentary

317 Psychoneurosis, other symptoms inc. asthma

318.0–318.5 Hypochondriasis, depersonalization, occupational neurosis, neurasthenia, mixed, other and unspecified.

4. Personality Disorder Group

I.C.D. Nos.

320.0–320.7 Schizoid, paranoid, cyclothymic, inadequate, Asocial, antisocial, sex deviate, other and unspecified.

321.0–321.5 Immature, emotionally unstable, dependent, aggressive, enuresis, other habits except speech, other and unspecified.

326 Other and unspecified character, behaviour, intelligence.

5. Addictive Group

I.C.D. Nos.

322.0–322.2 Alcoholism, acute, chronic, unspecified.

323 Other drug addiction or chronic intoxication.

6. Senile Organic Group

I.C.D. Nos.

304 Senile psychosis (dementia)

306 Arteriosclerotic psychsis (dementia).

7. Non-senile Organic Group

I.C.D. Nos.

305 Pre-senile dementia/psychosis

307 Alcoholic psychosis (D.T., Hallucination, Korsakoff)

308.0–308.2: Psychosis from brain tumour, epilepsy, other brain disease inc. acute confusional state.

309 Postencephalitic Parkinsonism, brain disorder, psychosis.

8. Miscellaneous Group

I.C.D. Nos.

324 Primary behaviour disorder inc. juvenile delinquency.

325.0 Mental deficiency.

354 Migraine.

680.2 Puerperal psychosis (affective, (b) schizophrenic, (c) mixed or other.

688.1 No psychiatric abnormality, Epilepsy—all types.

B. Subsidiary Diagnosis

Abnormal Personality:

Added features in symptoms:
1. Affective symptoms; 2. Schizophrenic symptoms; 3. Paranoid symptoms; 4. Hysterical symptoms; 5. Obsessional symptoms; 6. Other e.g. mental defect, dementia, alcoholic personality, alcoholism.

APPENDIX 2
Criteria for the Standard Diagnosis

These are entirely descriptive categories, and no
interpretive, or prognostic terms were used. The criteria
are given in outline only, since the importance of the
Standard Diagnosis lies in the application of the same
criteria to all the patients, as far as the notes allowed,
rather than in the "correctness" of any of the terms used.
The criteria for groups 1-3 are given more fully than the
rest, since they applied to the great majority of the patients.
Entries in the hospital case-notes were used only if the
content of the symptoms were indicated, and general
statements such as "the patient is deluded" were ignored.
It will be noticed that these diagnostic criteria are based
largely upon information contained in the recent history
and present state; this was unavoidable, since in the
great majority of case-notes only this more recent type of
information was present in any detail.

1. Schizophrenic Disorders
A clear description of at least one of the following was
needed:

(a) Catatonic Motor Disorder:
   (i) posturing, rigidity, echopraxia, extreme slowness,
etc.
   (ii) outbursts of excitement
   (iii) episodes of stupor

(b) Persistent Incoherence of Speech (in the absence of organic
    brain disorders):
    Lack of logical connection between words, or
    between phrases, or between sentences. Neologisms,
    word salads.

(c) Delusions and Hallucinations:
    (i) Delusions of influence, or mind control, or
        thought reading. Commentary on thoughts, etc.
    (ii) Delusions of reference or persecution thought
        to be undeserved and not in the context of severe
        depression.
    (iii) Grandiose, religious, or somatic delusions, but
        not in a setting of either severe depression or
        hypomania.
    (a) Hallucinations, present for years, in absence of
        organic brain disorder.

(d) History of Definite Change of Personality towards being
    withdrawn, aloof, eccentric, etc. Lack of drive,
    initiative, at home or falling work status otherwise
    unexplained.

(e) Disturbances of Affect or Drive
    Recorded observations of:
    (i) Silly, inappropriate laughter or giggling (in
        the absence of hypomania).
    (ii) Marked loss of volition or drive; marked
        inactivity (with absence of depression).

(iii) Marked flatness of affect; lack of responsiveness.
(A differentiation was also made into the usual schizo-
phrenic sub-groupings of paranoid, hebephrenic, cata-
tonic, simple, mixed and other).

2. Affective Disorders
Clear description of marked affective mood disturbance
as the chief (or as a very prominent) symptom. Sub-
division into one of the following groups was always made:

(1) Depression: simple. Severe enough to be the presenting
    or incapacitation symptom, but not accompanied by
delusions or hallucinations, or by marked anxiety,
phobias or obsessions (but often accompanied by
ideas of guilt or thoughts of suicide).

(2) Depression: psychotic. Accompanied by depressive
    hallucinations, or delusions, (i.e. with a content of
    sinfulness, worthlessness, poverty, self-blame; or
delusions of hypochondriasis or depersonalization),
or accompanied by depressive stupor.

(3) Mania or Hypomania.
    (i) Marked and persistent elation or euphoria, with
        over-activity. (Often interrupted by brief episodes
        of depression or weeping),
or (ii) Manic speech disorder (flight and pressure of
    ideas, rhyming and punning, etc.) if accompanied by
    persistent manic mood disorder,
or (iii) Manic delusions (grandiose, exalted religious,
    expensive paranoid) if accompanied by persistent
    manic mood.

(4) Depression: neurotic. Accompanied by symptoms of
    anxiety or panic attacks, or phobias, or hysterical
    symptoms.

(5) Depression: obsessional. Accompanied by marked
    obsessional symptoms.

3. Neurotic Group
The principal symptoms under one or more of the
following headings, (in the absence of marked depression
or hypomania or any of the Schizophrenic symptoms in

(a) Anxiety State: Fear, with or without discrete panic
    attacks, occurring spontaneously, or brought on by
    a wide variety of different stimuli.

(b) Phobic State. Fear or panic attacks brought on by one
    or only a few specific situations or objects, and not
    present in their absence.

(c) Hysterical (or Dissociative) State, or Conversion
    Hystera: Either (i) Wandering, fugues, memory-loss
    or stupor, and in the absence of depression, schizophre-
    nia or relevant physical illness.
or (ii) Disturbances of motor or sensory functions not
    corresponding to clinical entities, or patterned upon
    a known previous physical illness, in the absence of
    marked depression, or schizophrenia.

4. Personality Disorder Group
Clear description of permanent pattern of behaviour as