Alternative Diagnoses as an Aid to

Psychiatric Classification

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INTRODUCTION

In some systems of psychiatric diagnosis the clinician has the option of recording for each patient a set of three diagnoses: Main, subsidiary and alternative. The main diagnosis is the most likely diagnosis in the view of the clinician; the subsidiary diagnoses cover additional conditions the patients may have. If the clinician is uncertain about his main diagnosis, he provides one or more choices for an alternative diagnosis.

The American Psychiatric Association, in its Diagnostic and Statistical Manual of 1968 (DSM-II), makes provision for the recording of multiple diagnoses which include main and subsidiary diagnoses as defined above. However, DSM-II makes no provision for the use of alternative diagnoses. This is surprising since in practice it is frequently difficult to be certain about the main diagnosis of a patient and alternatives often occur to the clinician. Ward and Beck (1962) warned almost ten years ago that diagnostic unreliability was mainly due to overlap between diagnostic categories. Kendell (1968) has recently shown the high frequency with which symptoms characteristic of two diagnostic categories may occur together in a patient even where the diagnoses are alleged to be mutually exclusive.

Perhaps one reason for the present neglect of alternative diagnoses
ined by a team of six "project psychiatrists." The samples of patients, their manner of selection, and the methods of examination are fully described elsewhere (Cooper, et al., 1969; Gurland, et al., 1969). The only details given here are those essential to the analyses that follow.

The two samples each consisted of 250 patients aged between 20 and 59 years. The six project psychiatrists* who shared the case load of patients to be examined were members of a research team. Their training was predominantly British. Each patient was given a structured mental state interview by one of the six psychiatrists, within 48 hours of admission. Additional interviews covered a psychiatric history taken from the patient and from an informant**. Information about psychopathology was recorded on pre-coded items and also summarized. Profiles of psychopathology for individuals and groups were obtained by summing items in each area of psychopathology and standardizing the scores.

The examining psychiatrist recorded a main, subsidiary, and alternative diagnosis using as a guide the 8th Edition of the International Classification of Diseases (ICD) and a glossary of terms provided by the British General Registrar's Office (1968). After all information about a patient was gathered, consensus diagnoses were reached between the examining psychiatrist and his colleagues.

No information about the patients was exchanged with the hospital staff. The routine hospital diagnoses were collected after they had passed through the usual administrative channels. However, alternative diagnoses were not available from either the New York or London hospital system.

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** The informant interviews were conducted by Miss Anne Vickery and Mr. R. Simon.
RESULTS

The samples of patients in New York and London were combined to make a total of 500 admissions. The project psychiatrists, by consensus, gave alternative diagnoses to as many as 263 patients. This was in fact even a little more than the number of patients (249) who received subsidiary (multiple) diagnoses.

The project psychiatrists reached a consensus main diagnosis of manic-depressive-depressed disorder in 85 patients. Fifty-two of these patients were given no alternative diagnosis (the "Classic Affective" or "Classic A" group). Fourteen were given an alternative diagnosis of schizophrenia (the "Affective-Schizophrenic" or "A-S Mixed" group). The group mean profiles of psychopathology for the Classic A and the A-S Mixed groups are contrasted in Figure 1.

Insert Figure 1 about here

The fourteen dimensions of psychopathology shown in this figure were chosen because they best discriminate between the diagnoses of affective disorder and schizophrenia, either by the project team or by the hospital staff. Patients diagnosed as a depressive disorder generally score high on the first five dimensions (called the "moody" scales for convenience): general anxiety; specific anxiety; retardation; depressed mood; and no interests. Patients diagnosed as a schizophrenic disorder generally score high on the eight right hand dimensions (called the "psychotic" scales for convenience): depersonalization; no insight; delusions of control, of persecution, of gradiosity, and of somatic disturbance; blunting of affect; and incomprehensibility. The remaining dimension, hypomania, is the best indicator of manic-depressive-manic disorder.
The Classic A group score above the mean on the moody scales and below the mean on the psychotic scales. The A-S Mixed group is lower on the moody scales than the Classic A group and has high scores on some of the psychotic scales. In this respect, the A-S Mixed group has a profile of psychopathology which has some of the characteristics of the profile associated with schizophrenic patients. However, Figure 2 shows the difference between the A-S Mixed group and the profile of "Classic Schizophrenia". The latter ("Classic S") group comprises patients with a main diagnosis of schizophrenia and no alternative diagnosis other than of a subtype of schizophrenia. Under the rubric schizophrenia the following are included: simple, hebephrenic, catatonic, and paranoid types; acute schizophrenic episode; latent, residual, and other or unspecified schizophrenia; but schizo-affective psychosis is excluded.

[Insert Figure 2 about here]

The Classic S group scored below the mean on all five moody scales, whereas the A-S Mixed group scored above the mean on four out of these five scales.

Thus the A-S Mixed group appears to show psychopathology which is intermediate between that of classic depressive disorders and the schizophrenias. In fact this mixed group has the intermingling of depressive and schizophrenic features which is generally thought to be characteristic of the schizo-affective category of diagnosis. Figure 3 compares the A-S Mixed group with the schizo-affective profile.

[Insert Figure 3 about here]
Seventeen patients were diagnosed as having schizo-affective disorders. They score above the mean on four out of five moody scales, and six out of eight psychotic scales. Thus the schizo-affective and the A-S Mixed groups resemble each other in the admixture of depressive and schizophrenic features.

As described above, the psychopathology of the A-S Mixed group is intermediate between the affective and schizophrenic disorders. Thus it is only to be expected that there is greater diagnostic disagreement over patients in the A-S Mixed group than over the Classic A group. Table 1 shows the project and hospital diagnoses on the A-S Mixed and Classic A groups.

Insert Table 1 about here

Of the 14 patients in the A-S Mixed group (8 were in New York and 6 in London) only one received a hospital diagnosis of an affective disorder, although their main diagnosis was in all cases given as manic-depressive-depressed by the project psychiatrists. Thus there was over 90% disagreement on the A-S Mixed group. On the other hand, the 52 Classic A patients (21 in New York and 31 in London) were agreed by the hospital to be affectively disordered in 26 cases (7 in New York and 19 in London). In this Classic A group there was therefore not more than 50% disagreement. The expectation is fulfilled of greater diagnostic disagreement in the mixed than the classic group.

Again, because of their mixed symptoms, we expected the A-S Mixed group to have an outcome between that of the Classic A and the schizophrenic groups. Outcome was measured as a function of the number of days a patient spent out of hospital and the number of his readmissions during
one year after being examined by the project psychiatrists (Burdock and Hardesty, 1961). The results are expressed as an outcome index which is between zero and one, being nearer to one when the outcome is good. The frequency distribution of outcome indices polarizes with .75 as the valley. This corresponds to a patient who spends 3 months in hospital and is not readmitted during the course of the subsequent year. Thus an outcome index greater than or equal to .75 was used as the criterion for good outcome.

Table 2 shows that the A-S Mixed group has an outcome which is worse than for the Classic A group, but better than for the Classic S group.

In summary, the A-S Mixed group is different from both the Classic A and the Classic S groups in symptoms, outcome, and the diagnostic disagreement evoked.

Alternative Diagnoses as a Monitor of the Nomenclature

The International Classification of Diseases has recently been adopted for use by psychiatrists in the USA. A glossary of terms has been provided (DSM-II) to guide the clinician in applying the ICD. Further changes in this glossary will probably follow to bring it into line with glossaries in other countries. Administrators will need to monitor the problems of clinicians in interpreting the guides given in

+Duration of initial hospitalization included time spent in a reception hospital where applicable.

There were 16 patients who had two admissions and one who had three admissions in the same consecutive series. For the purpose of relating diagnosis to outcome of hospitalization, any patient was counted only once (at the first of his admissions). The later admissions were, of course, taken into account in evaluating outcome.
category diagnoses lying outside the major of the main diagnosis in 176 out of 500 cases (35.2%). It thus appears that these psychiatrists found considerable difficulty in choosing between diagnostic categories. This is the more striking because these psychiatrists were particularly concerned with making accurate diagnoses and had available to them the ICD with an appended glossary of terms.

A more detailed analysis can be derived from Table 3. This analysis can take into account a) the "uncertainty" in the use of a diagnostic category as measured by the percentage of times that its use as a main diagnosis is accompanied by an alternative diagnosis; and b) the "overlap" between any two diagnoses measured by the number of times they are used together as main and alternative diagnoses as a percentage of the total number of times they are used as main diagnoses.

The categories shown in Table 3 are listed below in order of most to least uncertain. Uncertainty is expressed as the percentage described above. Schizo-affective disorder 70.6%; neurotic depression 52.4%; other schizophrenia 41.5%; other neuroses 41.2%; personality disorders 40.0%; psychotic depression 38.2%; manic 30.6%; organic 26.7%; florid schizophrenia 21.1%; and drug and alcohol states 15.6%. It appears from this analysis that the minor cluster of schizo-affective disorder is relatively hard to diagnose with certainty. By contrast the minor cluster of drug or alcohol dependence is relatively easy to diagnose. Overlap between certain categories of diagnoses in Table 3 occurs frequently enough to deserve mention. The amount of overlap is expressed as the percentage described before. Florid schizophrenia
and schizo-affective disorder 11.8%; psychotic depression and other schizophrenia, 9.8%; psychotic depression and neurotic depression, 19.7%, and neurotic depression and other neuroses, 14.4%. The category of psychotic depression overlaps on the one hand with the diagnostic category of other schizophrenia, and on the other hand with neurotic depression; and neurotic depression also overlaps with the cluster of other neuroses. Thus overlaps occur particularly at the interfaces between florid schizophrenia/schizo-affective disorder; and between other schizophrenia/psychotic depression/neurotic depression/other neuroses.

**DISCUSSION**

The A-S Mixed group serves as a paradigm for some of the ways in which alternative diagnoses can be useful in classifying psychiatric patients. Without an alternative diagnosis to go by, the A-S Mixed group would be classified with the Classic A since those two groups have the same main diagnoses. Yet the A-S Mixed group has a symptom pattern and a prognosis different from the Classic A group and that in itself is good reason for separate classification. Furthermore, by virtue of separate classification the Classic A group gives rise to less diagnostic disagreement.

One might question whether patients in the A-S Mixed group could have been diagnosed as a schizo-affective disorder. According to the British Glossary, the latter diagnosis is limited to patients with both clear-cut affective symptoms and clear-cut schizophrenic symptoms. This does not cater for patients who show 1) clear-cut affective symptoms
together with dubious schizophrenic symptoms, or 2) dubious affective
together with dubious schizophrenic symptoms. Furthermore, the borderline
between clear-cut and dubious symptoms is itself dubious rather than
clear-cut. In the series of patients reported here, patients were put
into the A-S Mixed group (N=14) only slightly less often than into the
schizo-affective category (N=17).

Part of the value of recording alternative diagnoses is to high-
light the need for forming new diagnostic categories or expanding exist-
ing categories so that patients who currently receive a main and alter-
native diagnosis can be completely described by a main diagnosis alone.
For instance, a new category could be created for patients in the A-S
Mixed group, or the British Glossary's definition of schizo-affective
disorder could be expanded to include these patients. Until those
refinements are introduced, the mixed groups can be identified by their
alternative diagnosis.

The recording of alternative diagnoses can also be used to identify
those diagnoses which might need more precision in their definition.
For instance, we reported here that the project psychiatrists often
gave an alternative diagnosis when making a main diagnosis of schizo-
affective disorder, and we may therefore infer that the project psychiatrists
were often uncertain about the latter diagnosis. In such a case, the
reasons for the psychiatrists' uncertainties might be further investigated
in the hope that the definition of schizo-affective disorder could be made
easier to apply in practice.

Alternative diagnoses can give even more specific guidance as to
the clarification required in the definition of certain diagnostic categories. In this series, certain diagnoses tended to occur together as main and alternative diagnoses suggesting that the project psychiatrists found particular difficulty in choosing between those pairs of diagnoses. This was true, for example, for psychotic and neurotic depression. Thus, either the distinction between these diagnoses should be clarified or, perhaps, the psychiatrist should be relieved of the necessity to make such a difficult choice. Kendell (1968) has already suggested that it may be more appropriate to place patients on a continuum between psychotic and neurotic depression.

CONCLUSION

A single recorded diagnosis is inadequate in classifying patients. Multiple diagnoses as presently allowed in DSM-II are also not enough. We have shown that alternative diagnoses can be illuminating qualifiers of the main diagnosis.

We have further shown that the use of alternative diagnoses enables an analysis of the uncertainty and overlap of diagnostic categories. This type of analysis carried out on routine diagnoses would enable clinicians and administrators to determine which diagnoses require further refinement in their definition. Thus alternative diagnoses can form the basis for monitoring the use of diagnoses in everyday practice.

SUMMARY

Main and alternative diagnoses were applied by a single team of research psychiatrists to samples of consecutive admissions to a public
mental hospital in New York and in London. The total number of patients diagnosed was 500. The value of alternative diagnoses for psychiatric classification was examined.

A group of patients was isolated with an affective disorder as the main diagnosis and schizophrenia as the alternative diagnosis ("A-S Mixed" group). This group was intermediate, in symptoms and outcome, between groups of patients where there was no alternative diagnosis or where the main and alternative diagnoses were both of an affective disorder or of schizophrenia. Also the diagnostic disagreement between project and hospital staff was greater for the A-S Mixed group than for the group with an affective diagnosis alone. The symptoms of the A-S Mixed group resembled those of patients diagnosed as schizo-affective disorder.

A further analysis showed that the use of alternative diagnoses allows the monitoring of diagnoses in routine practice. Diagnoses can be identified which are creating uncertainty and confusion between categories. Appropriate measures can then be taken to improve the use of these diagnoses.
Acknowledgments

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References


Diagnostic and Statistical Manual of Mental Disorders (DSM-II) American Psychiatric Association (1968).


Table 1

Distribution of hospital diagnoses for patients classified as A-S Mixed or Classic A according to project diagnoses.

<table>
<thead>
<tr>
<th>Hospital diagnosis</th>
<th>London</th>
<th>New York</th>
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<tbody>
<tr>
<td></td>
<td>A-S Mixed</td>
<td>Classic A</td>
</tr>
<tr>
<td>Affective</td>
<td>1</td>
<td>19</td>
</tr>
<tr>
<td>Schizophrenic</td>
<td>5</td>
<td>8</td>
</tr>
<tr>
<td>Other</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>Total</td>
<td>6</td>
<td>31</td>
</tr>
</tbody>
</table>

*Project main diagnosis is manic-depressive-depressed in all cases.
Table 2

One-year outcome for patients classified as Classic A, A-S Mixed, or Classic S, according to project diagnoses.

<table>
<thead>
<tr>
<th>Project diagnoses</th>
<th>Classic A</th>
<th>A-S Mixed</th>
<th>Classic S</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good</td>
<td>24 51.0%</td>
<td>6  46.2%</td>
<td>37 38.1%</td>
</tr>
<tr>
<td>Poor</td>
<td>23 48.9%</td>
<td>7  53.8%</td>
<td>60 61.9%</td>
</tr>
<tr>
<td>Total</td>
<td>47* 99.9%</td>
<td>13* 100.0%</td>
<td>97* 100.0%</td>
</tr>
</tbody>
</table>

*In this and subsequent tables, and in all figures, the Brooklyn and Netherne patients are combined.

*Five, one, and three admissions respectively were omitted because there were no follow-up data or because the patient was a readmission and was already included in the sample at the prior admission.