

referrals; five all referrals; four coded referrals by type; one did not make this return and one did not know.

Q8. Have you tried the alternative College returns? If so what difficulties/advantages did you find?

Eleven had not tried the alternative returns, seven had. The latter found these returns over-complex and time-consuming and with unclear objectives; 'consultations' were particularly difficult to code. On the other hand this method was acknowledged to be more comprehensive and a more realistic reflection of work-load.

The extraordinary situation which these results reveal is presumably a result in part of individuals trying to improve validity, but at the expense of reliability at a Regional level. It was not just the clinicians; the instructions from the District Information Departments were also often at variance with each other, leading to a clear case of GIGO (garbage in garbage out) when the Regional returns are looked at *in toto*, and will produce utterly meaningless 'performance indicators'. The College (Nicol, 1989) has already pointed out at a national level the problems with the current Körner requirements for child psychiatry, although its suggested alternative is not very 'user friendly'. It is hoped that this communication will encourage child psychiatrists to look very carefully at what information returns are being made, how they are being used, and to press for a more uniform and sensible approach.

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Reference

NICOL, A. R. (1989) Performance indicators in child adolescent psychiatry. *Psychiatric Bulletin of the Royal College of Psychiatrists*, 13, 94–97.

Clinical diagnosis by neural networking using psychometric data

DEAR SIRS

Conventional computer programs function by working sequentially through a series of instructions. A fundamental development has been that neural networks function by parallel processing. Essentially three or more working layers of nodes are created (a node being a point at which calculations take place); an input layer, an output layer, and, between these an intermediate layer or layers (the "hidden layers"). Every node in the input layer is connected with every

node in the hidden layer, which in turn is connected with every node in the output layer. The structure immediately evokes the architecture of cerebral neural networks, albeit in a grossly simplified model.

We report experience in using a commercial software package (BrainMaker VI.6 California Scientific Software) to create a neural network which accepted psychometric data and output one of four diagnoses. The data were gathered from the Maudsley Item Sheet (Mark I) which encompassed approximately 14,000 in-patients at the Joint Hospital over the years 1949–1965. Patients over the age of 60 who had had a WAIS performed were identified and their WAIS results and clinical diagnosis were noted. These data had the advantage of offering very thorough clinical assessment and yielded a total of 67 cases of which three were schizophrenic and removed because this number was inadequate for our purpose.

Essentially a network was shaped which accepted 11 scores which were the WAIS subtests excluding the composite scores, and it output one of four diagnoses (see above). Those 64 sets of data were presented and represented to the network. As each data set was input, the correct clinical diagnosis was also shown to the computer so the network could correct its error and back propagate a mathematical correction factor. The parallel with animal training is clear. A typical course of events would be that the network achieved no correct results over the early runs but gradually it would score successful diagnoses and over time the rate of diagnostic success would increase. The network can be preset to various criteria of success and when the given criterion is reached the program stops and the network is considered trained. Then WAIS data used in training, or WAIS data totally unseen, can be shown individually and the neural network asked for a diagnosis. The correctness of the network's diagnosis can then be assessed.

We trained the network on the above data calibrated against 'arteriosclerotic dementia', 'senile dementia', 'presenile dementia', and 'depression'. Subsequent to the years over which Item Sheets I were collected, the diagnoses of senile dementia and pre-senile dementia have been amalgamated into the category 'Senile Dementia of Alzheimer's Type'. We were able to concatenate our data in this way and the network was able to discriminate between the three categories so created with 100% accuracy. In evaluating this success it must be remembered that the crucial test will be its success rate in diagnosing data on which it was not trained. In order not to deplete our data dangerously we saved only four sets and on these unseen facts the network achieved 50% correct diagnosis. (Currently we are seeking new WAIS data to significantly test our trained network.)

We present our experience so far in the belief that we have here an exciting new tool which has discriminated where human agents could not, and moreover

which leads to further investigations (e.g. on the relative significance of the WAIS subtests) by the manipulation of the variables intrinsic to the programme.

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Multiple personality disorder

DEAR SIRS

In the *Psychiatric Bulletin* (September 1989, 13, 513), Dr Lal Fernando discussed his dearth of multiple personality disorder (MPD) patients in various countries including Canada. He also knew of no other colleagues with such cases. However, many of his Canadian colleagues are treating MPD patients as well as doing research. My own initial cases date from 1977 when I was working in Germany. Canadian psychiatrists have attended courses on the diagnosis and treatment of MPD and other dissociative disorders which were held at three of the last four annual meetings of the Canadian Psychiatric Association.

The time has come for psychiatry to look with an open mind at the recent advances in the scientific literature on the diagnosis of MPD. Arguments claiming this to be an American creation are now wearing rather thin. While we debate this issue in print, many MPD patients are being deprived of therapy both in Canada and the UK because some psychiatrists choose to make MPD an issue of "to believe or not to believe", rather than an issue of educated scientific investigation.

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DEAR SIRS

I have been practising psychiatry for a number of years, but have recently become interested in dissociative disorders, including multiple personality disorders. As such I found Dr Lal Fernando's letter (*Psychiatric Bulletin*, September 1989, 13, 513) very interesting because until recently I would have agreed with him, as I had only seen one patient in this category during 15 years of practice. However, having taken some workshop training, now on the basis of my own clinical experience, I can no longer believe this.

It does not surprise me at all that a busy physician in a general psychiatric practice would often not detect these patients. Many have been repetitively

abused, either physically or sexually, during their childhood years by persons who were in positions of authority and/or trust, in some cases their parents. As such they are often now very suspicious of anybody in authority, and physicians fall into this category. They are therefore, often extremely secretive. While I have never seen any study on the relative degree of secretiveness among different diagnostic groups of psychiatric patients, these would fall into a 'maximum' category. Possibly it is partially for this reason that Putnam *et al* (1986), reviewing 100 cases of multiple personality disorder, reported that the mean time from their first contact with the mental health system (with symptoms referable to MPD) up to their diagnosis was 6.8 years (range of zero to 23 years). Many had previously been given other diagnoses, the commonest were depression, neurotic disorder, personality disorder and schizophrenia. Somewhat less common were substance abuse, manic depressive illness, temporal lobe epilepsy, *grand mal* epilepsy, learning disability, brain tumour, and organic brain syndrome. In most patients there was more than one prior diagnosis (mean = 3.6 diagnoses, range zero to 11).

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Reference

PUTNAM, F. W., GUROFF, J. J. *et al* (1986) The clinical phenomenology of multiple personality disorder: review of 100 recent cases. *Journal of Clinical Psychiatry*, 47, 285-293.

NHS White Paper

DEAR SIRS

Your comments on the NHS White Paper *Working for Patients* (*Psychiatric Bulletin*, July 1989, 13, 385-389) are helpful and perceptive but do not address the roots of the problem. As you say, the incompetent construction of the paper, probably designed to fudge the issues, makes it difficult, particularly for lay people, to assess the implications.

There seems little doubt that if fully implemented the proposals would mean the end of the NHS as an overall service as inequality of care is built in.

The paper has been launched with no consultation and with expensive and aggressive propaganda. The damaging effect on mental health services could be severe and lasting. A firm riposte is needed; with co-operation from NHS psychiatric staff and patients, the College should take the lead.

I wonder if the College has fully addressed itself to the threat to mental health care and is ready to