Discriminant Selection

Sept. 26, 1994, MSC Inc.

The patient history record must contain the following binary fields:

Head Injury

Neurological Disease

Previous EEG

Convulsions

Drug Abuse

Alcohol Abuse

Memory Difficulties

Confusion

Depression

Delusions, Hallucinations or Thought Disorders

Is this patient currently taking any prescription medication

If certain history items are checked, then a disclaimer is printed and the clinician is given no choices beyond Normal/Abnormal.

if (drug abuse or (age >= 17 and neurological disease) or (age < 13 and head injury)) print "In view of the following items in the history of this patient [drug abuse,] [neurological disease,] [head injury,] the only question which can validly be answered is whether the overall examination is within the normal limits expected for this age. [Normal/Abnormal]

If the patient does not fall into one of the exclusion categories, the clinician is given the choice of several possible discriminant questions which may be asked. The choice is entirely dependent on patient history.

print "Diagnostic Categories:"

if (age < 17) ask "Learning Disability (i.e. difficulties maintaining attention or scholastic performance two or more grade levels below expected in at least two or more academic areas)?" [Normal/LD]

if (head injury) ask "Closed Head Injury (no loss of consciousness)?" [Normal/MHI]

if (age >= 17 and (memory difficulties or confusion or depression)) ask "Major Affective Disorder (i.e. Hamilton Depression Score > 15)?" [Normal/MAD if age < 50, else Normal/MAD/Dementia]

if (age < 17 and delusions...) ask "Chronic Schizophrenia?" [Normal/Schiz]

print "None of the above" [Normal/Abnormal]

Once this selection has been made, some legal disclaimers must be introduced.

if (age < 17 and [Normal/LD] and (on medication)) ask "The learning disabled discriminant was developed on non medicated patients. Medications may affect the accuracy of the classification. In view of these considerations, do you wish to proceed with classification on this patients (Y/N)?" [Normal/LD]/[Normal/Abnormal]

if (age < 17 and [Normal/LD] and (neurological disease)) ask "The learning disabled discriminant was developed on patients who were not known to have neurological diseases. In view of these considerations, do you wish to proceed with classification on this patients (Y/N)?" [Normal/LD]/[Normal/Abnormal]

if (age >= 17 and on\_medication and [Normal/Schiz]) ask "The schizophrenic discriminant was developed on non medicated patients. When used on medicated patients, it will underestimate the likelihood of that patient being classified as schizophrenic. In view of these considerations, do you wish to proceed with classification on this medicated patient (Y/N)? [Normal/Schiz]/[Normal/Abnormal]

if (age >= 17 and on\_medication and not [Normal/Schiz]) ask "Medications may normalize an abnormal neurometric profile. They also may produce abnormal EEG features in a normal patient. Care must be taken when interpreting QEEG results from a medicated patient. In view of these considerations, do you wish to proceed with classification on this medicated patient (Y/N)?"   
discrim\_chosen/[Normal/Abnormal]

if (age >= 17 and [Normal/MAD/Dementia] and on\_medication) then ask "Medication also may confound the distinction between depression and dementia in patients with affective disorders who are over 50 years old. Do you still wish to proceed with classification (Y/N)? [Normal/MAD/Dementia]/[Normal/Abnormal]

The appropriate one of the discriminants can now be invoked. After the results are output, we must:

print "This classification is a multivariate statistical summary of a neurometric evaluation and serves only as an adjunct to other clinical evaluations.