S3 *The role of computers in psychiatry*

THE CONTRIBUTION OF THE COMPUTERIZED PATIENT INFORMATION SYSTEM TO QUALITY CONTROL IN A PSYCHIATRIC UNIT

I. Modai, Gehah Psychiatric Hospital, Israel

The control of clinical decisions and coordination of information in a psychiatric unit are complex tasks. An efficient way to improve decision-making processes is by combining report-dependent functions with an alert system. During the computer search, information is cross-checked and when a contra-indicated treatment decision is detected, an alert message is printed near the drug on both the drug report and the electronic patient record. On detection of a patient who is both on observation and on holiday lists, his name should be deleted from the latter. On detection of low chemistry blood levels, or when a patient needs observation, an alert message is printed in the corresponding report and record. Our system includes 40 cross-checkings and during the first two months, nine alert messages led to appropriate clinical decisions. The most critical message concerned clozapine-induced agranulocytosis.

S3 *The role of computers in psychiatry*

COMPUTER GENERATED (VIRTUAL REALITY) THREE DIMENSIONAL EXPOSURE AS A TOOL IN BEHAVIOURAL THERAPY OF AGORAPHOBIA

A. H. Bullinger, *Psychiatrische Universitatsklinik, Department of Psychiatry, Wilhelm Klein Strasse 27, 4025 Basel, Switzerland*

Computer-mediated psychotheraly seems to be suitable for brief and focused forms of therapeutic regimens, particularly cognitive-behavioural therapy. The main advantages of using computer technology in this field are enormous flexibility, maximum consistency, and, though still the subject of further research, very economic. These advantages could make psychotherapy more effective and through network-based distribution available to a broader population than the one experiencing psychotherapeutic treatment now.

At the Psychiatric Clinic of the University of Basel we are carrying out a multimodel study with patients suffering from agoraphobia, comparing the effects of cognitive behavioural therapy using in vivo expositions to a cognitive-behavioural treatment approach using computer generated (virtual reality) three-dimensional in vitro exposition. Besides a short description of the used equipment and the methodology we would like to present and to discuss the first results of this study.

S3 *The role of computers in psychiatry*

USING AN INTEGRATED COMPUTERIZED SYSTEM FOR MEDICAL STATISTICS AND CLINICAL ACTIVITY DOCUMENTATION IN A PSYCHIATRIC SETTING

A. Assimacopoulos, D. Glauser, E. Safran. *Medico-economic studies unit, University Hospital of Geneva - Belle Idee, Geneva, Switzerland*

The Department of Psychiatry of the University of Geneva has been running an integrated computerized information system for patient information management as well as for billing, accounting, and payroll management since 1993. Medical statistics, activity statistics and cost accounting are performed using a common set of tables.

Billable as well as non-billable patient encounters are recorded, allowing a detailed analysis of the care needed to help the patients. Completed care episodes have been defined as discharged patient stays for in-patients and as a gap of 6 months for out-patients. The density of contacts can be used to characterize the type of care. Collaborators' activities are divided into direct, indirect and preventive care, training, teaching, management and transportation. Analysing this data, where available, gives valuable information complementing the opinions of the managers of departments when planning restructuring. The mean length of stay is systematically computed with the median. Typical values for adult psychiatry is around 9 days for the median whereas the mean is between 20 and 30 days depending on the case mix.

The database is the basis of a longitudinal care register. Special attention has been paid to data security and access control.

S4 *Differential diagnosis of dementias: ...*

ALZHEIMER'S DISEASE AND NORMAL BRAIN AGING: AFFECT SELECT CORTICAL CIRCUITS

P. Giannakopoulos *Department of Psychiatry, "Belle Idee", 2 chemin du Petit-Bel-Air, 1225 Chene Bourg, Geneva, Switzerland*

In order to explore the relationships between the involvement of specific neuronal populations and cognitive deterioration, and to compare the hierarchical patterns of cortical involvement in normal brain ageing and Alzheimer's disease, over 1200 brains from elderly subjects without cognitive deficits, as well as from patients with age-associated memory impairment and Alzheimer's disease were examined. Our results suggest that the neuropathological changes associated with normal brain ageing and Alzheimer's disease affect select cortical circuits at different points in time. Extensive hippocampal alterations are strongly correlated with age-associated memory impairment, whereas the involvement of neocortical association areas of the temporal lobe is a prerequisite for the development of Alzheimer's disease. In contrast to younger elderly cases, in the ninth and tenth decades of life, there is a differential cortical involvement in that parietal and cingulate areas are early affected in the course of dementia, and senile plaques densities are strongly correlated with the severity of dementia. Moreover, Alzheimer's disease symptomatology is correlated with neurofibrillary tangle densities in the anterior CA1 field, but not in the entorhinal cortex and inferior temporal cortex. These observations are discussed in the light of the hypothesis of global corticocortical disconnection and in respect to the notion of selective neuronal vulnerability in Alzheimer's disease.

https://doi.org/10.1016/S0924-9338(97)80226-X Published online by Cambridge University Press