A COMPUTERIZED RECORDING SYSTEM FOR MENTAL PATIENTS IN INDONESIA

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INTRODUCTION

An integrated recording system of mental patients of all existing mental hospitals and psychiatric facilities in a country, combining recording uniformity, efficiency, quick information retrieval, and easy accessibility is an endeavour fraught with many difficulties.

Psychiatric facilities may provide services which are sometimes so divergent in character, that for some to commit themselves to a uniformly acceptable method of patient recording may hardly be a possibility. Patients' records of university hospitals where teaching is of utmost importance, and where consequently patients' records are very detailed; records used in governmental hospitals, most of them heavily understaffed, which make extensive and detailed recording too time-consuming; units which have provisions for very specialized services, such as drug dependence units, child guidance clinics, facilities for geriatric patients; each of these facilities has its own way of keeping track of their patients.

But psychiatry may get much benefit from the progress modern technology has made. The application of electronic data-processing to psychiatric patient recording may result in higher efficiency, greater speed of processing and analysis of data, accuracy and retrieval. These advantages alone far outweigh the difficulties to be encountered. The justifications for a computerized recording system are valid enough if meaningful research is to be done, or improvements of services linked to changing community demands are to be made. Furthermore, for a central body or for each psychiatric facility to have access to all the recordings in a country constitutes an additional advantage.

This paper describes a computerized recording system for psychiatric in-patients services which has been instituted throughout Indonesia.

Indonesia covers an area of more than 725,268 sq. mi. with about 13000 islands lying between latitude 5 degrees North and 11 degrees South, and between longitude 95 degrees East and 141 degrees East. It has an estimated population of 120 million. There are only about 75 certified psychiatrists in Indonesia and some 65 general practitioners working in State Mental Hospitals. Almost all these doctors work as government officials or in State Mental Hospitals during morning hours and have private practice in the early evening hours.

Basically there are four kinds of psychiatric facilities serving the Indonesian community.

1. *State Mental Hospitals.* These are funded by the Ministry of Health or the Provincial governments. There is a rather uneven distribution: 4 facilities in Sumatra, 3 in Kalimantan, 9 on Java, 2 in Sulawesi, 1 in Irian Jaya (West New Guinea), and 1 on Bali.
2. *University Departments of Psychiatry.* These facilities provide undergraduate medical teaching. Some of them are accredited centres for post-graduate training in psychiatry, such as University Departments in Jakarta and Surabaya.
3. *Private Mental Hospitals.* These are private facilities set up by psychiatrists generally located in some of the largest cities on Java and Sumatra. Included in this group are also Departments of Psychiatry of private general hospitals.
4. *Military Departments of Psychiatry.* These facilities are usually units of general military hospitals.

Obviously, due to the different orientations of psychiatrists, a number of difficulties were encountered when the patient register was devised. In 1970, after extensive and prolonged testing, the basic recording system was accepted by the Indonesian Ministry of Health (Directorate of Mental Health) and the International Committee Against Mental Illness (ICAMI), New York for use on a nation-wide scale.

II. GENERAL OBJECTIVES

A number of general objectives of the recording system is given here:

1. *Provision of an efficient recording and reporting system.*

In the past, patient records and reports were made by conventional methods: records were filled in by hand by attending doctors and periodic reports were laboriously made by administrators. Apart from the illegibility of most doctors' handwritings and the diverse systems of keeping records in different hospitals, to make comprehensive reports from non-integrated and non-uniform records which are not comparable, is an arduous if not a futile task. The use of a General Purpose Psychiatric Questionnaire (GPPQ) which limits itself to factual information, systematically arranged, from which neatly typed narrative print-outs of patients' case histories in summary style can be obtained, provides an obvious advantage over traditional methods. This is especially true for those hospitals which are heavily understaffed and where doctors simply do not have the time to write down patients' histories. Statistical tabulations derived from the wealth of data contained in these questionnaires can be made within minutes, reducing many man-hours of arduous manual work in various hospitals and the Directorate of Mental Health.

2. *New ways for research*
   Since data material is obtained from all areas in the country, comparisons from one area to another can be made. Quality of services can be compared, appraised, and improvements suggested. Hospital based epidemiological research from these data with implications for planning and the development of services, or for further social studies can be made. These preliminary findings may stimulate more specific and sophisticated epidemiological studies. It should be noted, that aside from hospital based studies, community surveys can also be done using this questionnaire.
3. *Information on socio-cultural background.*
   Indonesia has a rich diversity of cultural patterns contained in a vast geographic area. Information concerning different aspects of these socio-cultural groups and their relationship to or the generation of mental illness may shed some light on still unsolved or even unknown problems. More effective community mental health education can be given, directed to groups which seem to be most vulnerable to mental illness.
4. *Uses for administration and planning.*
   Data of interest for hospital administrators may be obtained from these records. Changes in patient load and admissions, seasonal trends, requirements for treatment, manpower requirements can immediately be seen from reports. All this greatly facilitates administrators' work especially for planning and making adjustments.
5. *Uses for education.*
   Completion of these questionnaires is in itself an educative experience. The necessity of framing questions more accurately is a common experience among doctors and social workers. The application of criteria used in the questionnaire may be very beneficial for a more productive communication among psychiatrists or general practitioners.

III. DATA MATERIAL FOR THE GPPQ

The material is divided into two major sections:
Part I: Socio-cultural information (including administrative and personal information.
Part II: Medical information prior to admission.

Part I includes the following data:

1. *Personal and administrative information*, such as name, identification number, address, age, sex, place of birth, name and identification number of hospital, date of admission, doctor in charge, source of referral, source of history, etc.
2. *Environmental background*, such as persons residing in patient's family home, place of upbringing, siblings, etc.
3. *Patient's parents*, such as whether they are still alive, divorced, separated, have remarried, etc.
4. *Educational level and schooling.*
5. *Marital information*, such as marital state, divorced, number of marriages, age at first or present marriage, etc.
6. *Employment*, such as primary occupation, income level, work history, patient's household provider, training and ability for present work, etc.
7. *Housing conditions.*
8. *Composition of household*, such as size of family, other relatives living in one household, etc.
9. *Religion*, such as nominal religion, attendance to religious activities, religious observance, etc.
10. *Community activity.*

Part II includes the following data:

11. *Duration of present episode.*
12. *Rapidity of onset* of present episode.
13. *Remissions*, number of prior episodes, prior hospitalization, precipitating factors, suicidal attempts, etc.
14. *Drug or alcohol dependence.*
15. *Intelligence level* of patient and family history of mental illness.
16. *Family attitude* towards patient's illness.
17. *Criminal behaviour.*
18. *Convictions* and types of punishments.
19. *Diagnosis* on admission.
20. *Prognosis.*
21. *Treatment* prior to admission.

Part I consists of 8 pages and can be completed by either the attending physician or a social worker. Part II, however, because of the nature of information required should be completed by doctors only. Although in the beginning the process of gathering information may be time-consuming, after some experience this may be reduced to app. 20 min. Part II which consists of only 4 pages may take only 5 min.

IV. SEQUENCE OF EVENTS

This Recording System Project (RSP) was initiated May 22, 1968, but due to circumstances it was not until October 9, 1970 that a RSP team was organized (*)

During the first initial phases the original English version of the General Purpose Psychiatric Questionnaire (GPPQ) made available by the International Committee Against Mental Illness was adapted to more specific Indonesian needs. The original optical reader form (Appendix I) was redesigned into an Indonesian language data sheet (Appendix II) for use with keypunch cards. Deletions, alterations, and new additions were made. Agencies where automatic data-processing could be carried out were consulted. An IBM 360 model 30 computer with 64 K of memory is used in this project. (**) During this phase a three months' trial period was introduced (January 1, 1971 – March 31, 1971) for all the mental hospitals on Java and Bali. Based on this experience, results were assessed and corrections were made.

During the second phase (April 1, 1971. – March 31, 1972) the project was firmly established on Java and Bali.

During the third phase (April 1, 1972 – November 30, 1972) the project was extended to the other islands of the Indonesian archipelago (Medan in North Sumatra, Banda Aceh in Aceh, Padang in West Sumatra, Palembang in South Sumatra, Pontianak in West Kalimantan, Samarinda in East Kalimantan, Banjarmasin in South Kalimantan, Ujungpandang in South Sulawesi, Manado in North Sulawesi, and Abepura in Irian Jaya).

Corrections in the Novel programme affecting the print-outs were done. Another computer programme which was felt to be more adequate for Indonesian needs was completed. (*) This programme will be instituted at a later date.

V. ADMINISTRATION OF THE SYSTEM

This system is adopted as regular procedure by all the mental hospitals and psychiatric units in general hospitals in Indonesia, regardless of whether they choose to retain their individual methods of keeping records. (**) A central body, in this case, the Directorate of Mental Health, Jakarta is responsible for this project. All data sheets are completed by physicians working in the various psychiatric facilities, sometimes assisted by psychiatric social workers or nurses. These documents are then passed to a local hospital secretary (local GPPQ coordinator) who checks for errors in these data sheets, and mailed to the Directorate of Mental Helath. The record section of the Directorate of Mental Health pools these documents, checks them again for errors, and forwards them to the keypunching centre. Punch cards which contain all the data are then fed into a computer which gives neatly typed narrative print-outs (Appendix III and IV). These print-outs are returned to the hospital of origin. One copy is left in the record section of the Directorate of Mental Health which at present is temporarily staffed by four part-time workers. Two doctors

(*) Members of this team were: Dr. Kusumanto Setyonegoro – Project Supervisor, Dr. Ashton M. Tenney – ICAMI consultant, Dr. Indro Suwandhi – computer consultant, Dr. Heraty Noerhadi – psychologist, and Dr. B. Sadono and Dr. R. Salan – Project managers.

(**) At Present an IBM 360 model 40 with 128 K of memory is used.

(*) This computer program which contains supplementary information on symptomatology and is updated in diagnostic categories is made by ICAMI consultant Dr. Zebulon Taintor.

(**) There are several facilities, formerly, called "psychiatric agricultural colonies", which are temporarily excluded from this project because no doctor is available for the completion of the records.

are in charge of management, budgeting, and correction of errors in the data sheets. One secretary answers incoming mail and makes periodic progress reports, and another assistant collects the documents to be passed to keypunch centre, computer, and returns print-outs to various hospitals. At present print-outs contain case histories in English as well as Indonesian. To ensure a smooth flow of information from the hospitals to the Directorate of Mental Health and back, it is evident that certain community services must be reliable e.g. the postal system.

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VI. RESULTS AND EVALUATION

The tables presented in this paper cover the period as of January 1, 1972 – June 30, 1972. Since so many expenses are involved in this project and so much effort poured into it, it would be reasonable to ask what conclusions can be drawn from the data presented in these tables, e.g.: What type of patients are admitted to the mental hospitals in Indonesia? What is their general background, educational, environmental, cultural, or otherwise? What kind of diagnoses is made?

Direct and "clearcut" answers to these questions are difficult to formulate due to a number of factors: The number of patients presented here is too small and limited to patients admitted to hospitals during one semester only. It is possible to envision that data which are more conscientiously recorded, and which are gathered over a period of several years, and to which more elaborate statistical analyses have been applied, may give a more accurate and reliable picture. It may very well be that a quite different picture than the one presented here will result. Different geographic areas and cultural patterns will put their own characteristic stamp on the patients, which again can make overall evaluation rather difficult to appraise. Furthermore, the patient population of private mental hospitals can differ in a number of characteristics from the patient population of State Mental Hospitals, military psychiatric facilities, or other specialized units. However, with all these reservations in mind, a very tentative attempt to suggest a generalized idea of the profile of the Indonesian patients admitted to Indonesian hospitals – whatever risk this may involve is very stimulating.

There are more male than female patients admitted to the hospitals. The majority of these patients are Moslems between 16 – 32 years of age. Curiously enough, almost all of them have been brought up in the family home. Their place of upbringing may be either urban, rural, or suburban depending on the location of the hospital. A general characteristic of interest here is that most of these patients are referred by the family. Only a small portion are referred by psychiatrists or family physicians. Almost all the patients speak the areas' dominant language. The occupation's prestige value and income level of these patients may be either low or medium. A relatively small percentage of patients have a high occupation's prestige value or income level. They may be either married or single and there seems to be a low degree of divorce among them. Data also show that the duration of illness of most patients is less than 6 months. Analyses of first admissions will in this context be more meaningful. As to diagnostic category most patients are schizophrenics, but this category may vary depending on the type of hospital, whether these are private or provide specialized care.

The tabulations also show that until June, 30, 1972, twenty-seven facilities have joined the project. However, some facilities were late in submitting the questionnaires, which account for their absence in the tables. This delay has been mainly caused by local administrative difficulties where adjustments to the system have as yet not been satisfactorily accomplished. A system of local GPPQ coordinators who work on a part-time basis does not seem to work very well especially for overburdened hospitals. Experience has shown that checking for errors, and other administrative duties tied to this kind of recording system, such as filing, coding, etc, is a full-time job. It should be reminded here, that much time of the doctors can be saved by having social workers or nurses do the job of completing Part I of the questionnaire. Another difficult matter which is closely related to organization and division of labor in hospitals is the problem of recordings made of patients who were admitted on an emergency basis or after working hours. This problem is more acutely felt by hospitals far away from the residences of the patients' family. These emergency cases are usually admitted in the late afternoon or at night, where doctors or other personnels are difficult to reach. In many cases unfortunately history taking was not very specific. At times, families never visit the patient again, so that the examining physician only meets them at the time

therapy is terminated and the patient is ready for discharge. In such instances the completion of the questionnaire will have to wait long periods of time. Obviously, such rather uncooperative family attitudes do harm the accuracy and the reliability of the data.

VII. CONCLUSION

It is evident that an integrated patient recording system using electronic data-processing on a nation-wide scale is possible and has certain advantages. However, the availability of electronic data-processing hard-ware as well as soft-ware, or agencies which can provide processing services on a computer-time basis is an essential requirement. Since the amount of data-processing of such a project will only take a few hours weekly, the installation of an electronic data-processing unit is impractical and relatively too expensive. It is also clear that such a recording system greatly enhances more systematic communication between the Directorate of Mental Health as central directive agency and peripheral psychiatric facilities. In this manner, a more integrated and balanced approach to mental health problems will develop and their possible solutions will be found.

It is also gratifying to know that the Indonesian government has realized the importance of this project and has given full support for its continuation.

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THE NURSE AND PSYCHOTROPIC MEDICATION

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INTRODUCTION

This paper examines the psychological aspects of the nurses' interpersonal relationships from the standpoint of her role in serving medication. The psychodynamics of interpersonal relationships between medical nursing and paramedical staff with the patients are of tremendous interest and its study can be rewarding for all concerned in the therapeutic community. The author puts together some of the experiences and opinions of assistant, staff and student nurses and sisters in a psychiatric unit. The points mentioned in this paper arises from group and individual discussion in the ward and perhaps a well constructed research could be formulated to study this area of human interaction to promote greater efficacy in "modern milieu therapy" (Abroms, 1969).

Patient-Nurses Relationship

The presence of psychiatric units in a general hospital and the use of effective psychotropic medications in recent years have changed the nurse-patient relationship from one of dominance-submission to one of understanding, emotional