SESSION VI ON-LINE ASSESSMENT AND EVALUATION

T. A. WILLIAMS, *University of Utah College of Medicine
and Salt Lake City Veterans Administration Hospital, President*

Computer technology in mental health care: "Toys" or tools?

T. A. WILLIAMS

*University of Utah College of Medicine and Salt Lake City Veterans Administration Hospital,
Salt Lake City, Utah 84132*

An argument is made that applications of on-line computer technology which are truly relevant to decision making constitute the new "tools of the trade" in mental health care delivery.

While it is generally believed that technology provides the potential for freeing man to pursue creative productivity, one may challenge the validity of this belief, at least insofar as one reviews the history of early applications of computer technology to the generic "medical" enterprise and, especially, in the arena of mental health care. In a recent review of the initial applications of computer technology in the latter arena (Johnson, Giannetti, & Williams, 1976), we, too, had been persuaded that Klein, Greist, and Van Cura (1975) were essentially correct in their assessment that, at least as regards the applications of computers in psychiatry, there were more "Promises to Keep" than had been actually kept. The five presentations which follow reflect, to varying degrees, attempts to utilize the unique potential of on-line computer technology for the problems which arise in the daily practice of mental health care delivery. As such, they may be viewed as examples of additional "promises kept."

Klingler, Miller, Johnson, and Williams (Note 1) agree with the position articulated by Lawton and Cohen (1975), noting that "An emerging maxim accompanying the introductions of new methods and/or procedures in health care is that both process and outcome must be measured in order to adequately evaluate alternative programs." Based upon the results presented by Klingler et al. it is concluded that "an on-line computer system staffed by paraprofessionals can perform the intake functions with accuracy equal to or surpassing that of a traditional ward-supported physician system . . . [and that, furthermore,] . . . the on-line computer assisted unit . . . shall prove cost-efficient as well." If the results of this evaluation study can be replicated in other settings, it will be incumbent upon administrators and clinicians engaged in mental health care delivery to reconsider the traditional perception that highly trained professionals provide the optimal system for intake assessment and triage decision making.

Miller, Johnson, Klingler, Williams, and Giannetti (Note 2) attempt, successfully in my opinion, to justify

the development of yet another computerized MMPI interpretation scheme. Their basic argument rests upon the contention that "not all MMPI profiles can be best interpreted using the same method of analysis." In conclusion, Miller et al. summarize the several advantages of their proposed interpretative scheme. "By combining several methods of interpretation, a complete report is generated for every patient. The most valid and reliable methods of interpretation are used first. When scale-by-scale analysis is used [a decision which is greatly facilitated by the fact that their system utilizes on-line computer technology], statements are organized into a logical report in which contradictions and duplications are eliminated." It is practical to "combine several methods of interpretation" only because their interpretative scheme is supported by on-line computer technology which permits rapid iterative applications of interpretative algorithms. Hence, the unique feature of their interpretation scheme derives directly from the fact that the availability of an on-line computer support system could be assumed in the initial planning of the interpretative scheme.

The Johnson, Williams, Klingler, and Giannetti (Note 3) presentation reports the finding that, although automation of intake assessment was feasible, "What proved to be very difficult to insure was the clinical use of computer reports generated at intake." They conclude that "lack of interventional relevance and individually tailored reporting [of the findings for each individual patient] are the major difficulties which have affected clinician acceptance." The proposed solution to this crucial problem of clinician acceptance, namely, a "new system [which] will utilize an individually tailored retrofit report generation approach," is possible only because of the unique potential of on-line computer technology. "Based upon the assembled reports and . . . a final interview . . . the intake clinician constructs a problem list for the patient . . . The computer sorts these problems according to the rating of severity and a disability weight . . . This problem list is the nexus

of the retrofit reporting system... Output from all assessment reports can then be indexed rationally to the structured problem list. Because of this, it will be possible to generate a...report which is organized according to the problems of the specific patient, rather than according to the instruments administered to the patients." This, in turn, should provide "What our clinicians are requesting [namely] a report format which accents the problems central to the treatment of the individual patient."

The Giannetti, Johnson, Williams, and McCusker (Note 4) paper proposes to extend even further the potential of on-line computer technology in the arena of mental health care. Their on-line problem-oriented system currently provides reports that are of great practical significance to managers of the mental health treatment system, in that it is readily possible "to identify the most frequent and disabling problems appearing at the intake point of the system." This "provides [heretofore unobtainable] information for resource allocation." Modifications to the existing system are now being planned which will further capitalize upon the unique potential of the on-line computer support system. "A cuing system will be added...[and] all of the items and scores in the assessment battery [will] be tagged to one or more problems. When a rater calls up the problem list, problems which are suggested by the assessment data will automatically appear...for consideration...Reevaluations will be simplified and errors eliminated by displaying only those problems identified at intake. An on-line file will be created to keep summary statistics required for reports. Whenever an intake or reevaluation is completed, the statistics will be updated..." It will thus be possible to compile them "at any time...without the exhaustive search of the patient file [as] is currently required."

The Hansen, Johnson, and Williams (Note 5) presentation calls our attention to the increasing demand for "accountability for effectiveness of services delivered." Hansen et al. note that, while several computerized management information systems have already been developed in efforts to satisfy this demand for accountability, none of these systems operates in an on-line mode. Hansen et al. argue that the proposed on-line system offers several advantages over the existing batch-process systems. "The rapid data access...with an on-line system approach makes available the current information necessary for effective and efficient management of mental health service delivery... Such a system has advantage for the clinician as well... Tracking a patient's progress throughout a treatment program allows the therapist to modify or strengthen that program according to the patient's needs. The large data base that is produced gives researchers the ability to study patient characteristics in relation to treatment

processes and outcome. Evaluation of processes [may become] *a routine activity rather than an infrequent project.*"

It is my personal conviction that applications of computer technology, such as those that have been summarized above, constitute the new "tools of the mental health care trade." Utilizing the unique potential of on-line computer systems, it is already possible to implement applications of this technology which are truly relevant to decision making in activities relating to direct patient care, as well as to those managerial activities relating to evaluation of program effectiveness and resource allocation. Such applications of computer technology in mental health care can no longer be dismissed as mere "toys."

REFERENCE NOTES

1. Klingler, D. E., Miller, D. A., Johnson, J. H., & Williams, T. A. *Process evaluation of an on-line computer-assisted unit for intake assessment of mental health patients.* Presentation at the sixth annual meeting of the National Conference on the Use of On-Line Computers in Psychology, St. Louis, Missouri, November 10, 1976.
2. Miller, D. A., Johnson, J. H., Klingler, D. E., Williams, T. A., & Giannetti, R. A. *Design for an on-line computerized system for MMPI interpretation.* Presentation at the sixth annual meeting of the National Conference on the Use of On-Line Computers in Psychology, St. Louis, Missouri, November 10, 1976.
3. Johnson, J. H., Williams, T. A., Klingler, D. E., & Giannetti, R. A. *Interventional relevance and retrofit programming: Concepts for the improvement of clinician acceptance of computer-generated assessment reports.* Presentation at the sixth annual meeting of the National Conference on the Use of On-Line Computers in Psychology, St. Louis, Missouri, November 10, 1976.
4. Giannetti, R. A., Johnson, J. H., Williams, T. A., & McCusker, C. F. *Development of an on-line problem-oriented system for the evaluation of mental health services.* Presentation at the sixth annual meeting of the National Conference on the Use of On-Line Computers in Psychology, St. Louis, Missouri, November 10, 1976.
5. Hansen, K. E., Johnson, J. H., & Williams, T. A. *Development of an on-line management information system for community mental health centers.* Presentation at the sixth annual meeting of the Conference on the Use of On-Line Computers in Psychology, St. Louis, Missouri, November 10, 1976.

REFERENCES

- JOHNSON, J. H., GIANNETTI, R. A., & WILLIAMS, T. A. Computers in mental health care delivery: A review of the evolution toward interventionally relevant on-line processing. *Behavior Research Methods & Instrumentation*, 1976, 8, 83-91.
- KLEIN, M. H., GREIST, J. H., & VAN CURA, L. J. Computers in psychiatry. *Archives of General Psychiatry*, 1975, 32, 837-843.
- LAWTON, M. T., & COHEN, J. Organizational studies of mental hospitals. In M. Guttentag & E. L. Struening (Eds.), *Handbook of evaluation research* (Vol. 2). Beverly Hills: Sage, 1975.