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PRELIMINARY REPORT  
ON  
USE OF LAHEY CLINIC AUTOMATED HISTORY  
IN AN INDUSTRIAL COMPLEX

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When Dr. Lewis Haynes, Medical Director of the NASA Electronics Research Center in Cambridge, assigned me to attend this meeting, I was more than pleased. He warned me that New Orleans had numerous points of interest and suggested that I bring my wife. It has been a most revealing and delightful experience.

I was asked to give you a preliminary report of our use of the automated medical history questionnaire at ERC.

This questionnaire has been developed and used extensively at the Lahey Clinic as an aid to the appointment office in determining what department a patient should be referred to and what time for special consultations should be reserved. It has helped to maintain a balanced case load and informs the physician in advance about the patients he will see. By coordinating appointments so that the patient can visit two or more of the specialty departments in one day rather than having to return a number of times to see different doctors, it has increased our efficiency. The questionnaire is not expected to make a computer diagnosis, but screens for important symptoms or "trouble spots" to which the computer is programmed to assign scoring values which in turn point out the clinic division or section to which the patient should initially be referred.

The Lahey Clinic provides medical care for the NASA Electronics Research Center in Cambridge.

Between May 1, 1968 and April 30, 1969--5,980 visits to our health unit were recorded--of which 137 were occupational, 4,512 were non-occupational and 1,331 were revisits. During that time 550 complete physical examinations were performed--of which 348 were conducted in the Health Unit and 202 including executive physicals, laser eye examinations and consultations at the Lahey Clinic.

With 900 employees at ERC--and all entitled to a complete annual physical examination--and with only 1/2 doctor in attendance, we had a problem. Who should get priority?

Dr. Haynes and I became aware of the fact that we were repeatedly seeing familiar faces with their problems; and yet, on the elevator or down the hall were people we did not know and who did not know us. They knew there was a Health Unit, but did not relate to it.

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With this thought in mind--with hopes of establishing even better employee-employer relationship, with hopes of interesting absorbed introverted research scientists to participate in the available health program, with hopes of keeping highly specialized expensive personnel on "the job"--the use of the Lahey Clinic automated history was introduced. Not for diagnostic purposes--only to establish priority for physical examinations.

So on May 1, 1969 a notice was sent to the permanent employees asking for volunteers to participate in this screening process and inviting them to also fill out the Minnesota Multiphasic Personality Inventory if they were so inclined. Firm assurance was made that all information obtained would be confidential and would be in the safekeeping of Lahey Clinic. Information would only be released with the employee's written consent.

Following the notice that the automated history and the MMPI were available, 272 requests for the questionnaire were filled. Of these, 195 of the automated histories were processed, 15 were returned and 62 have not been returned. One hundred seventy-nine of the personality inventories were processed, 31 returned and 62 are still out.

Of the 195 automated histories processed: 71 had never had a physical at ERC, 124 had had previous physicals (34 had had one previous physical examination, 68 had had two previous physical examinations, 22 had had three previous physical examinations).

To establish rapport with 71 employees who had never had a physical at ERC we thought was significant.

So what!!! We now had all this "print out" data. Dr. Haynes and I never realized that Dr. "So and So" down the hall was so severely depressed until the MMPI suggested that he should have psychiatric evaluation. We had never been aware the 58-year-old Mrs. "So and So" was still having intermittent vaginal bleeding.

So with all the print-outs--with names covered in order to avoid identification and to be as objective as possible, we individually rated each print-out for significant symptoms and complaints and also incorporated the Family History and when available the results of the MMPI's. Our rating closely paralleled the rating print-out of the computer.

Symptoms or history of immediate problems or life or job threatening illness were given an A priority rating--an employee who should be interviewed and examined at the earliest possible date.

Less suggestive "print-outs" with questionable life or job threatening illnesses were given a B rating--and those with no complaints and normal histories were placed in the C group.

Of the 195 processed automated histories 53 were given A priority, 59 B priority and 83 were placed in the C group. Since June 30 complete physical examinations and interviews of the A group have been completed plus 35 employees in the other groups.

One of the purposes of this research project using the automated history is to determine its reliability. The questionnaire must be changed and, in fact, is undergoing its eighth revision at present.--The problems of hearing a patient talk, seeing his facial expression, noting the odor of his breath and his emotional attitude will never be completely taken over by the computers. Computers were man-made and are programmed by man and sometimes may merely automate a defective status quo.

Up to this point the main difficulty with our automated history is one of semantics which I am sure our computer and programming experts can correct.

My personal feeling is that the automated history has a place in screening an industrial complex which has such health fringe benefits as offered to NASA employees.

NASA scientists are unique--questioning--skeptical--but as is becoming evident from our brief study, seemingly more willing to relate their problems to a computer than to a man or physician. However, it has been increasingly apparent that the physician's "mind computer" with its associated understanding, compassion and sympathy plus clinical judgement and experience will never be replaced by any depersonalized man-made machine computer--however, the computer has afforded a new means of establishing rapport.

I trust that when our study is completed in May 1970, objective evidence of its usefulness may be presented.