HEALTH HAZARD APPRAISAL
IN A FAMILY PRACTICE CENTER:
AN EXPLORATORY STUDY

Edward E. Bartlett, Dr. P.H., Herbert U. Pegues, II, M.D.,
Calvin R. Shaffer, M.D., and William Crump, M.D.

ABSTRACT: Health Hazard Appraisal (HHA), a tool of primary prevention, has been advocated for use in family practice. Yet little evidence exists regarding its effectiveness in clinical settings or its acceptability to practitioners or patients. In this study, 69 family practice patients completed a HHA questionnaire. Their responses were computer-analyzed and returned in two to three weeks. The patients were telephoned three to five months later to assess the effectiveness of HHA in terms of desired behavioral changes.

Of the patients who were recommended to undertake specified behavioral changes, 41.3% reported that they had begun an exercise program, 27.8% had stopped smoking cigarettes, 20.0% had limited their alcohol intake, 23.5% had reduced their driving mileage to under 10,000 miles, and 75.0% of the women started breast self examinations. Although the patients’ self-reports may have been exaggerated, they nonetheless represent encouraging results.

Evaluations by patients revealed little objection to the personal questions, length of time to complete, or cost of the HHA form. Physician evaluations expressed the consensus that HHA was beneficial to the doctor-patient relationship, but a few indicated they did not feel comfortable discussing the HHA results with the patient.

Preventive medicine has been advocated as an essential component of family practice. There are two general approaches to clinical preventive medicine: periodic health screening and health hazard appraisal.

Periodic health screening involves the testing of patients for medical conditions at predetermined time intervals. The criteria for specified screening tests are based upon patients' age and sex. The goal of these tests is to detect disease after its onset but before it becomes symptomatic. Periodic health screening (including general physical exams) represents a large percentage of office visits for both well child care and adult medical practice. Although periodic health screening is not foolproof, it can play an important role in practice if the screening tests are judiciously selected.

Health hazard appraisal (HHA) is based on the premise that illnesses a patient may develop can be predicted by certain risk factors. These risk factors include the patient’s lifestyle, family medical history, and specified physiological indicators (e.g., blood pressure, serum cholesterol). Thus, a
patient who smokes cigarettes, has a family history of heart disease, and is hypertensive is very likely to develop a variety of cardio-vascular problems. Whereas the goal of periodic health screening is secondary prevention (i.e., after the biological onset of disease), HHA is a non-invasive tool of primary prevention, (i.e., before the onset of the disease). Once the risk factors of a patient are identified, appropriate educational and medical measures can be undertaken.

REVIEW OF THE LITERATURE

Scores of papers on Health Hazard Appraisal have been published. Most of these articles are descriptive, philosophical, or exhortative; only a few are empirical in nature. Of 212 papers cited in a recent comprehensive annotated bibliography of HHA literature, only 19 examined health risks identified and behaviors changed due to the HHA procedure. Of the 19, only three had been accomplished in clinical settings; the remainder were effected in schools, community health programs, or groups of people specially recruited for this purpose. Of the three completed in clinical settings, one was undertaken with 144 patients in a multispecialty clinic in Utah, a second was with 59 patients at a community health center in British Columbia, and a third studied 18 patients at a Family Practice Center in Ohio. Researchers in the third study contacted 18 patients who had completed HHA one year earlier. Of the 12 patients who responded to the questionnaire, 10 reportedly had reduced their risk age, whereas 2 had increased it.

These three studies used follow-up periods of 4 to 12 months to assess the effectiveness of HHA, and relied on respondents' self-reports to measure behavioral change. Although changes in the desired direction often were reported, the sample size usually was not large enough to test adequately for statistical significance.

Given that only three empirical studies of HHA have been conducted in clinical settings, and only one in a family practice, it seemed appropriate to further test the role of HHA in family medicine. The present study evaluated three aspects of HHA:

1. effectiveness in influencing patient behavior,
2. acceptability of HHA to patients, and
3. acceptability of HHA to family practice physicians.

METHODOLOGY

During the fall of 1980, various meetings were held among faculty and