EVALUATING THE EFFECTS OF ALCOHOLISM TREATMENT,
UTILIZING MEASURES AVAILABLE AT THE WORK SITE

Discussion Paper

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Improvement in work performance among program clients is a desired result of many occupational alcoholism and employee assistance programs. While this desire may or may not be stated as a program objective, evaluations of program success or impact tend to be made in terms of changes in work performance or in the work-related activities of program clients.

Research on program effectiveness can be designed which recognizes and utilizes those outcome measures that are identified as important by the work organizations themselves. For example, if a program is to be evaluated in terms of its impact on employee absenteeism, then research can be designed to examine what types of interventions result in the greatest impact on absenteeism.

The interventions to be explored in such research would include treatment services provided by various treatment providers. While these treatment providers may wish to evaluate their impact using measures more directly related to the presenting problem, those measures are of less interest to employers than measures relevant to the work situation. Furthermore, treatment providers are hampered in evaluating their own performance by lack of long-term measurements of impact on their patients.

The study to be discussed in this paper is still in the developmental stage. Initial interest in the study was generated by a treatment provider that desired a method for looking at long-term impact on their alcoholic patients. This group approached a number of employers about the possibility of a joint study that would collect absenteeism and health care utilization data over time, for alcoholic patients (in addition to more subjective evaluations). Over a period of months, interest in the study grew, and most of the major alcoholism treatment providers in the area indicated interest in participating in the study, as did a number of area employers.

The study proposes to gather a sample of approximately 2,000 alcoholic employees identified by participating employee assistance programs. Many of these employees would be referred to a participating treatment facility, but some would receive treatment elsewhere (including self-help groups), and some would choose not to seek help.

Participating programs will agree to use a standard program intake form, including a description of the reasons for whatever treatment recommendations were made, and to keep standardized records of subsequent interventions with each sampled employee. Treatment facilities will agree to use a standard set of diagnostic tools, and to complete standardized descriptions of the treatment procedures used with each sampled employee. The first year of the project is to be devoted to the development of these standard protocols, and of the procedures to be used by the various participants in the study. The treatment procedures themselves will not be manipulated in the study; each provider will continue to use whatever forms of treatment it would ordinarily use. Only the record-keeping will be standardized.

Each patient will be followed for a period of five years, via an annual follow-up interview with the patient, and the accumulation of the following sets of data: absenteeism from the job (utilizing a definition agreed upon by participating employers), use of sick leave benefits, and use of health care benefits. Baseline information will also be collected for these measures, for a period of one or two years prior to intervention.

The hypothesis underlying the study is that present methods of assigning alcoholic patients to treatment modalities are inadequate, and that it is possible to identify better methods of matching patients to treatment. The study will attempt to identify empirically which types of patients did best in which types of interventions (including "no treatment" as one modality).

Later studies would attempt to manipulate the assignment of patients based on these results, along the lines of the Core-Shell system developed by Dr. Frederick Glaser at the Addiction Research Foundation.

This brief statement of a study design raises a major theoretical issue relating to the definition of the dependent variables, and a methodological issue, in terms of sample selection and distribution into the various interventions. Each issue will be addressed briefly below.

Theoretical Issue: Definition and Measurement of the Dependent Variables

As was noted above, the study's hypothesis is that certain types of patients will do better in certain types of treatment modalities than others. The relevant issue here is what do we mean by "do better." The original intent of the study, as initially laid out by the interested treatment providers, was to define "doing better" in terms of work performance measures available at the work site. The employers who had become involved in the study development have indicated their interest in utilizing the records that they normally keep, rather than developing any special data collection procedure that would tap work behavior not normally recorded.

Three measures are currently being discussed: unexcused absence, use of sick leave benefits, and use of health care benefits. The study also contemplates collecting follow-up data on drinking behavior from the patients themselves, so there will be the ability to examine correlations between patients' reports and the work-related measures utilized. However, the work-related measures are of primary interest.

It is clear that work performance, however it is measured, is not a direct measure of the adequacy of control of alcoholism or any other health problem. It should be equally clear that many occupational alcoholism

programs are expected to have an impact on work performance, and that this is not, in general, an unrealistic expectation. Work performance is one component of "life" performance, and the only one for which systematic data are collected as a matter of routine. If the treatment of alcoholism is expected to assist people to regain control over their lives and to function in a normal manner, then the use of work performance measures is a perfectly acceptable method of evaluating the effectiveness of the treatment.

The specific measures to be used may be debated. The advantages of the measures being proposed are that they are relatively comparable within a given work organization, and they are normally recorded.

These measures are not necessarily comparable across companies, however. Even with agreements across companies on the definitions of these variables, there will not be comparability, because (a) record-keeping differences will persist, and (b) companies vary in the health care benefit packages they offer. Thus there are serious problems in the procedures for analysis of these measures.

Typically these types of measures have been analyzed by examining changes in the study group after intervention, or after completion of treatment, as compared with a comparable time period before intervention. Using this method, direct comparisons of utilization cannot be made across companies; at best, only the amount of change can be compared. However, the amount of change to be expected in a study group will depend in part on the degree to which subjects in the study group were deviant from the parent population to begin with. Furthermore, some estimation must be made of changes over the study period in the parent population. For example, as health care costs rise in the parent population, they should be expected to rise in the study

group as well, and such a rise is not attributable to anything about the study group or the interventions being made.

Each of these measures must therefore be adjusted to reflect performance or utilization within the parent population. At a minimum, the norm (i.e., the average usage within the parent population) must be identified annually, in order to be able to interpret the measures within the study group. Using these norms, the degree of deviation within the study group (or within smaller subgroups) can be identified, by computing the ratio of study group utilization to average utilization during the same time period.

An even better statistic would require not just the norm, or mean within the population, but in addition the standard deviation within the population, so that each individual's performance or utilization could be translated into a standard score. This would allow more direct comparison across populations, and would also adjust for changes taking place over time within each population.

These considerations lead to a conclusion that the dependent variables being considered for the proposed study--absenteeism, sick leave utilization, and health care utilization--may be appropriately used to measure the impact of an occupational alcoholism program, and that research may reasonably be conducted to evaluate the effects of different types of interventions, including various treatment modalities, using these measures. However, it is clear that for the measures to be useful in comparative analysis across different employers, they will have to be adjusted for differences in utilization across those different populations. Furthermore, if the distributions within those populations are significantly different from one another, it would probably not be appropriate to make such comparisons, and the research would of necessity need to rely on comparisons within companies.

Methodological Issues: Sample Selection, and Distribution into Treatment Modalities

A. Sample Selection. Selection into the study will be handled by the staff members of participating employee assistance programs. All employees identified as alcoholics during a specified time period will fall into the sample. While agreements will be reached prior to initiation of sampling regarding how the sample is to be defined, there will be considerable variance across programs in the training and background of the EAP staff, and in the type of assessment made. The study sample will therefore be defined as those employees identified by the EAP staff as alcoholics. For the employees in the sample who are referred to a participating treatment facility and who subsequently are treated at that facility, diagnostic comparisons of employees referred by different EAP's can be made. Furthermore, comparisons can be made based on the sampled employees' pre-intervention performance on the dependent variables, thus allowing some assessment of the comparability of the samples identified by different EAP staff members.

B. Distribution into Treatment Modalities. One of the most serious methodological problems in research on alcoholism treatment is the lack of control groups, i.e., comparably constituted groups (preferably using random allocation), one group receiving the intervention and one from which the intervention is withheld, in order to identify the effects that can be clearly attributed to the intervention. Without control groups it is not clear whether changes found in the dependent variables are attributable to the intervention or to some other factor.

The proposed study will not attempt to identify control groups, since neither the participating companies nor the treatment facilities wish to withhold treatment, for ethical reasons. (Some individuals may refuse

treatment, but this is a self-selected group.) This would not in itself be a serious problem, since the study wishes to address the comparative effectiveness of different types of interventions, and does not require a control group for comparison.

The more serious methodological problem is that this project is in the nature of an uncontrolled experiment, in which the research staff will not control allocation of subjects to the various intervention modalities. Without random or controlled assignment, the project will not be able to assume equivalence of groups receiving different interventions. Simple comparisons across interventions would therefore be inappropriate, without knowing what biases may have resulted from the allocation process.

Given a sufficiently large sample, this problem can be addressed by matching individuals after the fact, on such variables as demographic characteristics, intake/assessment information, and prior history on the dependent variables (health care utilization and absenteeism). A large sample is desired for this reason. In addition, fairly detailed information will be recorded on the intake protocol regarding the process by which the EAP staff member chose to refer an individual to one treatment facility rather than another, in order to identify possible biases and control them statistically.

Another method for addressing this problem is to make no comparisons across intervention groups, but to use techniques such as multiple regression analyses within each group, in order to identify which client characteristics are associated with the most positive outcomes for each individual treatment modality. This analysis will not result in statements about the unique effects of a given intervention, but should lead to hypotheses which may be tested, using more controlled research designs.