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ABSTRACT

This book presents the state of the art of American medical education in alcohol and drug abuse, and is the culmination of a four-year collaborative effort among the medical school faculty of the Career Teacher Program in Alcohol and Drug Abuse. The first part contains reports, curricula, and survey data prepared for the medical education community, focusing on drug abuse and alcoholism teaching in medical/osteopathic schools, a course on alcoholism for physicians, the Career Teacher Program and Resource Handbook, and the role of substance abuse attitudes in treatment. The second part is the proceedings of the National Conference on Medical Education and Drug Abuse, November 1977. The conference sessions address issues such as: (1) the physician's role in substance abuse treatment; (2) physicians' use of drugs and alcohol; (3) drug abuse questions on the National Board Examinations; and (4) an overview of the Career Teacher Program activities. (Author/HLM)

National Institute on Drug Abuse
National Institute on Alcohol Abuse and Alcoholism

Alcohol and Drug Abuse in Medical Education

U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
Public Health Service
Alcohol, Drug Abuse, and Mental Health Administration

Association for Medical Education and Research in Substance Abuse

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Editorial Board

Foreword

A systematic and intensive study of medical education in alcohol and drug abuse is relatively new. As national awareness of the medical problems resulting from alcoholism and drug abuse has grown during the past decade, medical educators, practicing physicians, treatment program staffs, clients in treatment, and others have drawn attention to the need for training physicians to recognize, diagnose, treat, and properly manage patients with substance abuse problems. With the establishment of the National Institute on Alcohol Abuse and Alcoholism and the National Institute on Drug Abuse, a career teacher program was developed. The purposes of the program have been to educate medical school faculty for a teaching career in drug abuse and alcoholism and to develop medical school curriculums in the field. A significant indication of the growing interest in medical education in substance abuse has been the formation, by career teachers and colleagues from their medical schools, of the Association for Medical Education and Research in Substance Abuse (AMERSA). This volume is the first of a series of publications in which career teachers and members of AMERSA will collaborate. It is offered to the medical educator in the hope that it will be a valuable resource in considering some of the issues involved in preparing physicians to treat drug or alcohol patients and their families.

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CONTENTS

PROCEEDINGS OF THE NATIONAL CONFERENCE ON MEDICAL EDUCATION IN ALCOHOL AND DRUG ABUSE

Jointly sponsored by the Association for Medical Education and Research in Substance Abuse and the Career Teacher Program in Alcohol and Drug Abuse (ADAMHA)

November 5–6, 1977, Washington, D.C.

Introduction: A Perspective on Alcohol and Drug Abuse in Medical Education

Marc Galanter, M.D.

This book presents the "state of the art" of American medical education in alcohol and drug abuse. It provides both a historical and a contemporary perspective on this important issue at a time when the American public and the medical profession have acknowledged a responsibility to treat these serious multisystem illnesses. It also includes valuable educational materials recently developed for this field.

This book is the culmination of 4 years of collaborative effort among the medical school faculty of the Career Teacher Program in Alcohol and Drug Abuse. This program, established in 1971, is supported by the National Institute on Drug Abuse and the National Institute on Alcohol Abuse and Alcoholism. Since 1976, the career teachers have worked together under the organization they established, the Association for Medical Education and Research in Substance Abuse (AMERSA). AMERSA was opened to other medical faculty in this field in the year after its inception.

Under the career teacher program, a number of projects were carried out to define the scope of education in the addictions and to implement more effective teaching. The results of this work are presented here in two parts. The first part contains reports, curriculums, and survey data prepared for the medical education community. The second part is the Proceedings of the National Conference on Medical Education in Alcohol and Drug Abuse, held in November 1977. It draws on the work of career teachers and their colleagues and reviews major issues in this field.

The book begins with the report of a national survey evaluating the state of current teaching practices in substance abuse in all American medical schools. Alex Pokorny and his associates have conducted a carefully conceived and thorough study, which allows us to define future progress by the specific standards of current achievement. This is followed by a review of the development of the career teacher program in its historic context.

An ensuing section deals with specifics of curriculum. "Curriculum Objectives" have been developed by a committee of the career teachers chaired by Donald I. Davis. They represent a distillation of the knowledge and skill areas related to substance abuse which the physician should master, and they serve as a useful outline for preparing curriculum.

A model program which uses these objectives, a "Course on Alcoholism for Primary Care Physicians," was developed by another committee chaired by George Jackson to illustrate specific teaching techniques which may be employed. After this chapter, Charles Buchwald describes the ample educational aids available in this field.

The need for measuring change in attitudes is of major importance in substance abuse education. On the basis of another working group, both the instruments used and results in a study assessing medical attitudes toward the substance abuser are presented. This material, developed by John N. Chappel and Ronald S. Krug, allows for the sequential study of changes in student and graduate medical groups. The final part of the first section presents examination techniques developed in a joint effort by the career teachers and the National Board of Medical Examiners. John B. Griffin's work with his associates on this project has allowed for a more prominent role of substance abuse in the

board examinations. Their material is also now under consideration by medical specialty boards for inclusion in their examinations. This work may be particularly useful, since policy in the professional examinations is highly influential in determining medical curriculum.

The material described was drawn together prior to the National Conference on Medical Education in Alcohol and Drug Abuse. That conference was established by AMERSA to strengthen communications among workers in this field. It was held in November 1977 in the hope that it would serve as a focus for growth of our working group. The proceedings, which constitute the second half of this book, reflect the excitement and controversy inherent in the conference. Over 200 physicians gathered to discuss issues of mutual concern, issues for which only a limited forum had been previously available. Most of those in attendance had worked diligently in the face of limited support and often active opposition to develop curriculums in the area of addictive diseases. They felt strongly that a united effort greatly enhanced their opportunity for success.

Ernest Noble, Director of the National Institute on Alcohol Abuse and Alcoholism at the time of the conference, delivered the keynote address which documents the status of Federal programs at a time when there had been considerable expansion in the scope of research activities. He also indicated avenues that the Institute planned to pursue, with increased primary prevention being one major thrust. Dr. Noble helped to put the conference in a broader public health perspective and urged those attending to reflect on the relative investment of the Federal Government in their activities in the field of medical education.

The principal talks of the plenary sessions of this conference were reviewed and edited by our editorial board. These proceedings consist of two debates, two status reports, and illustrative career teacher programs. The first debate, between Benjamin Kissin and E. Mansell Pattison, focuses on defining the appropriate clinical role for the physician in relation to alcohol and drug abuse. The relative benefits of training all physicians to assume care for such patients are presented. Similarly considered is the option of limiting the physician's training to referral of such patients to specialists in the addictions.

A second debate examines whether medical education has focused too much on the adverse consequences of the nonmedical use of psychoactive agents. It asks, in effect, whether the physician's responsibility is to emphasize considered warning of the dangers of addictive illness, a position supported by LeClair Bissell. Alternatively, should physicians serve simply as educators for the sensible and appropriate use of psychoactive agents, as suggested by Norman Zinberg? This attitudinal issue is a very important one, since the substance abuse educator may set the tone for students' responses toward drug use among their patients and toward drug abusers in general.

Alex Pokorny and John E. Fryer reviewed major points from their national survey, which is presented in the first part of this book. They provided interesting insights into the conduct of this survey and their dealings with medical faculty from the various schools.

As stated above, the career teachers were provided with an invitation by the National Board of Medical Examiners to develop questions in the field of substance abuse. At the conference, David Smith, director of the board, and John B. Griffin, who chaired the committee for the career teacher group, reviewed the status and import of their work. This complements their report on this issue in the initial part of this book.

The final section provides an overview of the type of activities undertaken by the career teachers at their respective campuses. George S. Tyner, for example, gives a perspective on substance abuse education from the office of the dean, since he was a career teacher while serving as dean of the medical school at Texas Tech University. John N. Chappel and Ronald S. Krug present reviews of a survey that they undertook on student attitudes toward the substance abuser. This, too, is an update and summation of material in the first half of the book. John E. Fryer presents an analysis of the communications structure in his school, as played out in the hands of figures such as the department chairperson, who maintains control over much of the curriculum time. He provides a lesson in navigating the various committees on curriculum and the directors of training in order to institute changes in substance abuse teaching.

Many of the career teachers were actively engaged in research during the course of their grant periods. Thomas J. Crowley studied changes in motility in clinical and preclinical settings in relation to methadone and LAAM administration. He reviews the status of work in his laboratory and illustrates the dividends which accrue from combining research and teaching activity.

Career teachers are frequently involved in producing audiovisual materials for their own campuses and for broader distribution. One such project was undertaken by Kenneth Williams, whose long experience in clinical collaboration with Alcoholics Anonymous (AA) allowed him to make a film presenting the nature of AA membership. He discussed techniques for developing audiovisual material and also presented the ways that physicians can be taught to utilize AA.

This volume therefore provides historical and survey information on alcohol and drug abuse education, as well as a body of techniques useful to medical educators in this field. Although such work is not fully accepted in all schools of medicine, the progress made in the past decade has been remarkable. Most schools have progressed from virtually no educational activities in this field to modest but defined curriculums. As recently as a decade ago it was hard to imagine alcoholism and drug abuse as standard components in appropriate clinical departments. This now exists on many campuses. It may seem unlikely that established postgraduate medical fellowships in the addictions can have the standing of their counterparts in cardiology, surgical specialties, or child psychiatry. Nonetheless, such fellowships are already being developed.

Medical students instructed by members of the career teacher program at its inception have already approached the house staff on their wards, asking what treatment was available for addicts hospitalized for sequelae of their illness. These students are now themselves members of the house staff. We see them expressing greater concern and respect for this major clinical issue. Many house staff members have also been instructed by other medical faculty who have been active in this field for many years. All these members of the medical training hierarchy now reflect changes generated by medical educators and by programs which have sensitized the public to the importance of alcoholism and drug abuse. It is a time for considerable optimism.

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The State of the Art

1. Drug Abuse and Alcoholism Teaching in U.S. Medical and Osteopathic Schools, 1975-77

Alex Pokorny, M.D., Patsy Putnam, B.A., and John E. Fryer, M.D.

INTRODUCTION

This is a report of the principal findings of a survey of drug abuse and alcoholism teaching in schools of medicine and osteopathy in the United States.[1] These schools were surveyed between November 1975 and February 1977; the results, therefore, largely represent the situation in 1976. This report concentrates on the positive or significant findings. Individual medical and osteopathic schools are not identified.

BACKGROUND

It has been widely recognized that medical education in drug abuse and alcoholism has been generally scanty and inadequate. It has also been noted that in the course of their training medical students tend to acquire negative attitudes toward patients with substance abuse disorders. These perceived deficiencies in medical education led to the establishment of the Career Teacher Program in Alcohol and Drug Abuse, a joint effort of the National Institute on Drug Abuse and the National Institute on Alcohol Abuse and Alcoholism.

The last major reviews of substance abuse teaching in medical schools were made 5 to 7 years ago. In 1970, a conference sponsored by the National Council on Alcoholism reviewed the situation regarding training in alcoholism (1).

This study was supported by grant No. DA00061-05 awarded to Baylor College of Medicine by the National Institute on Drug Abuse and by grant No. T01 AA07086 awarded to Dr. John E. Fryer by the National Institute on Alcohol Abuse and Alcoholism.

The conference report stressed that alcoholism is a major cause of medical and psychiatric pathology and that it has been called the No. 1 public health problem in the United States. Despite this, teaching regarding alcoholism has been neglected in medical schools. One chapter of the conference report described the curriculums of various medical and osteopathic schools represented by conference participants. The descriptions indicated considerable variability between schools, with clinical facilities and affiliations frequently determining the amount of teaching in the field. The report also commented on the reluctance of curriculum committees to assign sufficient time to alcoholism education; it suggested as possible reasons a defeatist attitude and the emotional reactions of committee members.

The situation regarding substance abuse teaching was reviewed in a 1972 Macy Conference, with some 30 participants drawn from the basic science and clinical departments of medical schools, from Federal and State agencies, professional associations, and the pharmaceutical industry (2). The conference focused on heroin, marijuana, barbiturates, amphetamines, and alcohol.

[1] The survey also included dental, physician's assistant, and nurse practitioner schools, but those results will be reported elsewhere.

Although short on details, the report of this conference was an excellent summary of the issues. It presented a twofold role for medical education: (1) to equip physicians with appropriate knowledge and skills, and (2) to develop in the next generation of doctors a capacity for community leadership in this area. It also drew attention to the possibility of iatrogenic drug abuse. The report described a model program which would include a program director, appropriate clinical facilities, and the following curriculum:

Year 1. Exposure to concepts concerning alcoholism and drug dependency.
Year 2. Detailed teaching on pharmacological aspects and medical ecology.
Year 3. Exposure to drug dependency in appropriate clinical rotations.
Year 4. Suitable electives for students who wish to study the subject in greater detail.

The Macy report also recommended that medical schools offer continuing education courses in substance abuse for practicing physicians. Participants agreed that drug and alcohol abuse are major medical and social problems and that physicians have a responsibility to treat them. They agreed that core curriculum time devoted to these subjects should be increased, but there were differences concerning just how much time should be allotted. The report emphasized the need for appropriate clinical facilities.

In a paper presented at the Macy Conference, and later published separately, Dr. Barry Stimmel outlined an ideal curriculum in substance abuse (3). Dr. Stimmel described a 4-year, integrated, interdepartmental curriculum in which required courses provide the student with a core of knowledge, and multiple elective courses offer the opportunity to study the subject in more detail. He included an excellent review of topics that need to be covered, courses and departments that might be involved, and teaching methods that have been successful.

In 1972, the AMA Council on Mental Health issued a position paper declaring that the "need for effective medical education on the use and abuse of drugs . . . has recently been focused to a point of urgency" (4). The paper stressed the recent increase in drug abuse and alcoholism and pointed out that such problems were related to legal, moral, economic, and social questions. At the time, many medical schools were revising their curriculums to offer more options, and the paper suggested the use of experiential teaching in the area of substance abuse. It also suggested that a curriculum should include these elements: (a) A unifying concept of behavior; (b) teaching about the broad spectrum of pharmacological agents involved; (c) systematic critical analysis of the research literature; (d) the status of public beliefs and attitudes toward substance abuse; (e) demographic considerations; and (f) a review of the common routes to development of drug abuse, including social customs, self-medication, self-expression, criminal exploitation, and iatrogenic drug abuse.

A student perspective editorial in *Private Practice* stated that medical schools have no unified approach to training physicians to treat alcoholics (5). The writer described one medical school in which second-year students received four lectures on alcoholism—three from the department of psychiatry and one from the department of neurology. During clinical rotations in the third and fourth years, the students encountered many alcoholics who were being treated for other disorders but not for the underlying problem of alcoholism. The writer noted that psychiatry seemed to deal more directly than other departments with alcoholism but did not cover the concomitant medical and surgical problems. He therefore recommended comprehensive didactic and clinical instruction on alcoholism in all medical school curriculums. He stated that medical schools need to train physicians to fulfill the major responsibilities they will have regarding management of alcoholic patients, including treatment of the chronic alcoholic. In addition, "medical schools must strive to inculcate in the physician an attitude of compassion toward the alcoholic patient." These several reports were therefore in agreement that medical education in the area of substance abuse has been inadequate.

Some reviews of substance abuse training for other related professionals have been made. In a study sponsored by the Drug Enforcement Administration, the American Association of Colleges of Pharmacy (AACP) surveyed the status of drug abuse education in pharmacy schools (6). The AACP asked each pharmacy school to list substance abuse courses offered only to pharmacy students, courses for pharmacy and other students, courses for educators, continuing education programs, and extracurricular activities. The report indicated fairly widespread activity in the schools, as well as rapid expansion in substance abuse education at the time (1972).

P. Burkhalter sent questionnaires to 175 registered nurses at a large California hospital asking about the amount and type of instruction they had received in drug abuse and alcoholism (7). Ninety-three nurses, who had graduated from schools of nursing between 1941 and 1971, replied. The responses indicated that substance abuse teaching had been sorely neglected and that significant numbers of trainees had received little or no instruction in this area. Those who had received instruction had received it mainly during the psychiatry rotation.

The National Institute of Mental Health announced the Career Teacher Program in Alcohol and Drug Abuse in December 1971. The program, sponsored by the National Institute on Alcohol Abuse and Alcoholism and the Division of Narcotic Addiction and Drug Abuse (which later became the National Institute on Drug Abuse), was designed to help medical school faculty members develop expertise in narcotic addiction, drug abuse, and alcohol abuse. A selected faculty member, supported by a career teacher grant, would be able to spend 1 to 3 years studying all facets of addiction and its treatment. Following a training period, the appointee would design a curriculum for medical and other students and make his/her substance abuse expertise available to the university. The objective of this training was to increase and improve substance abuse education in undergraduate and continuing medical education. The first career teachers were appointed in 1972. One career teacher training center was also established that year, and another was established in the following year.

In 1974, the National Institute on Drug Abuse assembled a task force to reconsider the initial objectives of the program and to suggest additional ways of achieving those objectives. The task force, which included career teachers and representatives from the training centers, the selection committee, NIDA, and NIAAA, held a series of meetings and ultimately adopted eight objectives. One of these objectives was to survey schools of medicine, dentistry, and nursing, and programs for physician's assistants and nurse practitioners to develop baseline data on the "state of the art" regarding drug and alcohol abuse (teaching) in existing curricula. The goal was to learn what type of substance abuse information was being taught, which departments were responsible, what methods were being used, and how much time was allotted in the core curriculum and in elective hours. The accuracy of the questionnaire would be verified by site visits.

The task force also made these decisions regarding the survey:

1. The sample would be 100 percent of U.S. medical schools, 100 percent of osteopathy schools, 25 percent of dental schools, 50 percent of physician's assistants training programs, and 50 percent of the generalist nurse practitioner training programs. Pharmacy schools were excluded because they had recently been surveyed.
2. Each school—even those with a career teacher—would be approached through the dean. The task force hoped that the dean would provide greater support for this inquiry throughout each medical school and that this method would increase the comparability of the answers.
3. Individual schools would not be identified in the survey report.
4. For baseline purposes, we would make use of all available information, such as that presented in the AAMC curriculum directories and the annual JAMA reports on medical education in the United States.

PROCEDURE

The Baylor Career-Teacher Training Center accepted responsibility for completing the survey. Staff members from the training center developed a pilot questionnaire which was mailed to three Texas medical schools. On the basis of their responses and questions, we revised portions of the questionnaire. Ambiguous wording was not detected during the local reviews or during the pilot survey. As a result, we could not reliably distinguish between the time spent on alcoholism and the time spent on drug abuse and will mostly report these together.

The questionnaire was mailed to each medical and osteopathy school in the United States in November 1975. In April 1976, we sent a followup letter to each nonresponding school, and in July 1976, we sent a second letter to those schools which still had not replied. Later we worked through career teachers, other friends on medical school faculties, and through personal visits to push the completion rate to 90 percent.

FINDINGS

Completion Rate

The completion rates as of April 1977 were as follows:

		Percent
Medical schools	105/117	90
Career-teacher schools	39/42	93
Non-career-teacher schools	66/75	88
Osteopathy schools	9/9	100
Total	114/126	90

Verification Through Site Visits

As planned, a sample of medical schools was visited to verify the accuracy of questionnaire replies. Dr. John Fryer, the career teacher from Temple University, took the major responsibility for this and visited 10 schools. Dr. Alex Pokorny, codirector of the Baylor Career Teacher Training Center, visited two schools. It was concluded that, in their replies to the questionnaire, 10 of the 12 schools had given adequate and accurate descriptions of their teaching in drug abuse and alcoholism. One school had underestimated such teaching, mainly because the person completing the questionnaire was not aware of certain relevant teaching. Another school appeared to have overstated its substance abuse education. We concluded that the questionnaire was an accurate indicator of the amount of substance abuse education being provided.

Descriptive Findings

Medical schools

The 105 medical schools that replied to the survey vary greatly in age, size, size of city in which located, etc. For purposes of analysis, we grouped the 105 schools as follows:

	Number of schools	Percent
(a) Section of country:		
Northeast	47	45
Southeast	19	18
West (of Mississippi River)	39	37
(b) City size:[1]		
Under 100,000	25	24
100,000–500,000	40	38
Over 500,000	40	38
(c) Founding dates:[2]		
Before 1900	51	49
1900–1959	30	28
1960 and later	24	23
(d) Ownership:[2]		
Public	64	61
Private	41	39
(e) 1st-year enrollment (1974–75):[3]		
41–120	48	46
121–330	57	54
(f) Total enrollment (1975–76):[2]		
Under 400	35	34
400–599	42	40
600 and over	28	26
(g) Career teacher in the addictions		
Have current or previous career teacher	39	37
Have never had a career teacher	66	63

[1] Based on information from *Statistical Abstract of the United States, 1975.*
[2] Based on information from the *1975-76 AAMC Directory of Medical Education.*
[3] Based on information from *JAMA's 75th Annual Report on Medical Education in the United States, 1974–75.*

(We included as "career teacher" schools three medical schools which have had faculty members who functioned fully as career teachers although funded from other sources.)

Hours of teaching and number of courses in substance abuse

We obtained information on both required and elective learning experiences in substance abuse. For purposes of reporting, these are handled separately because they have different implications. *Required* activities are minimally satisfactory teaching exposure—activities the medical school requires of each graduate. Since these courses are taken by each student, it is meaningful to report average hours of teaching per school, department, and student.

Elective activities reflect the richness of the curriculum, the opportunity to pursue a line of study in depth. We must recognize, however, that these are *offerings*, and many an elective is never chosen. It is not meaningful to speak of total *hours* of electives per school, student, or department. We attempted to remedy this by asking how many students took each elective during the past year; unfortunately many respondents did not supply this information.

Therefore, the *number* of courses is our best available measure of the elective program since it is some indication of the variety of opportunities that students have to pursue substance abuse education in depth.

Average hours of required teaching in substance abuse. The required substance abuse hours range from zero to 126. The distribution is shown in table 1.

TABLE 1.—*Required substance abuse hours*

Required substance abuse hours	Number of schools	Percent
0	9	9
1–7	17	17
8–16	25	25
17–37	25	25
38–126	26	25

Table 2 presents the number and percent of schools with required courses containing teaching on substance abuse.

TABLE 2.—*Required substance abuse courses*

Required courses containing substance abuse teaching	Number of schools	Percent
0	9	9
1–2	18	17
3–4	26	25
5–6	26	25
7–17	24	23

For the 102 medical schools which gave information on this point, the average hours of required instruction by departments are shown in table 3. (Departments which average less than 0.1 hour omitted.)

Elective courses in substance abuse. As discussed previously, it is more meaningful to discuss electives in terms of number of courses rather than number of hours. The medical school offerings of electives in substance abuse are distributed as shown in table 4.

TABLE 3.—*Required substance abuse hours, by department*

Basic science departments	Average required substance abuse hours
Pharmacology	4.7
Pathology	1.1
Community and environmental medicine	.8
Preventive medicine	.6
Biochemistry	.2
Forensic medicine	.1
Medical humanities	.1
Total, basic science departments	7.6
Clinical science departments	
Psychiatry	12.0
Medicine	3.4
Neurology	.8
Family practice	.8
Anesthesiology	.4
Pediatrics	.2
Surgery	.1
Total, clinical science departments	17.7
Interdisciplinary or multidisciplinary	.4
Overall total	25.7

TABLE 4.—*Elective substance abuse teaching activities*

Number of elective substance abuse courses	Number of schools	Percent
0	35	34
1	27	26
2	20	19
3–10	21	20

We also asked how many students had actually taken these electives, with the results presented in table 5.

Even if we assume that all of the "not reported" courses had zero enrollment, this still represents a substantial student interest in the substance abuse area.

Alcoholism teaching vs. drug abuse teaching. We asked respondents to indicate whether each course dealt with alcoholism or drug abuse, or both. For

TABLE 5.—*Elective substance abuse teaching activities: Number of students enrolled*

Number of students enrolled	Number of courses	Percent
0	4	2
1-4	25	15
5-14	32	19
15-35	33	20
Over 35	30	18
Number not reported	41	25

all courses—both required and elective—the responses are as follows:

	Number of courses	*Percent*
Drug abuse only	54	8
Alcoholism only	124	18
Both	522	75

For *required* courses, the distribution is almost the same; 81 percent of the required courses deal with both disorders.

Since we did not ask respondents to apportion time between alcoholism and drug abuse, we cannot reliably determine total time for alcoholism or total time for drug abuse. Therefore most of our report will be in terms of substance abuse, which includes both.

Substance abuse teaching as percentage of required curriculum. For each of 97 medical schools, we calculated the required hours of substance abuse instruction as a percentage of total required hours of instruction. The percentage ranged from zero to 3.1, with a mean of 0.6 percent.

Departments Involved

The trend for departmental responsibility in substance abuse seems to be running counter to the recommendations of the 1972 Macy Conference on Medical Education and Drug Abuse. The conference report questioned the efficacy of psychiatric treatment for substance abuse and suggested that "there is now considerable doubt as to whether the problems of drug and alcohol abuse originate as psychiatric or behavioral disorders or whether drug abuse itself simply generates behavioral abnormalities." The report recommended that the departments of medicine bear the primary responsibility for substance abuse teaching (8). As we have already shown, departments of psychiatry teach the greatest number of required hours. The same distribution is true for the total number of courses offered (table 6). In considering elective courses only, there are some shifts, but psychiatry departments offer an even larger percentage (table 7).

TABLE 6.—*Departments teaching substance abuse courses*

Department	Courses that contain substance abuse teaching	Percent
Psychiatry	287	40.2
Pharmacology	101	14.1
Medicine	86	12.0
Pathology	37	5.2
Neurology	33	4.6
Family practice/ family medicine	29	4.1
Community/community and environmental medicine	28	3.9
Pediatrics	19	3.0
Biochemistry	15	2.7
Public health	21	2.1
All others	58	8.1

TABLE 7.—*Departments teaching elective substance abuse courses*

Department	Number of electives	Percent
Psychiatry	73	44.2
Medicine	20	12.1
Pharmacology	17	10.3
Community/community and environmental medicine	10	6.1
Family practice/ family medicine	9	5.5
Public health	8	4.8
Neurology, neuroscience	6	3.6
Continuing education	5	3.0
All others	17	10.3

Information and skills taught

Each survey worksheet included a list of skills and items of information relating to alcoholism and drug abuse. For each course or teaching activity, respondents were asked to check those items included in the course. For most courses, respondents checked a large number of these, and we found it difficult to summarize this information. Tables 8, 9, 10, and 11 list, in order of frequency, the items checked by medical schools for all courses. This gives some idea which are regarded as more important, and which are therefore most often taught.

TABLE 8.—*Alcoholism: Information taught in substance abuse courses*
(n = 672)

Type of information	Number of courses teaching information	Percent
Definitions/description	437	65
Medical complications	408	61
Treatment/rehabilitation	380	56
Psychiatric complications	348	52
Social complications, including legal	342	51
Pharmacology	309	46
Etiological factors/ prevention	392	58
Pathology	287	43
Epidemiology	272	40
Self-help groups	241	36
Legal regulations, including history	178	26
Public health aspects	169	25
Public education	103	15

Primary disorder versus complications

It has been our impression that medical school curriculums have generally provided good coverage of the complications of alcoholism and drug abuse but have tended to be deficient in teaching concerning the primary disorder—in teaching about the etiology, mechanism, diagnosis, and treatment of the behavioral substance-dependency disorder itself. We therefore asked whether each course or teaching activity dealt with the primary disorder, the complications, or both. For courses that included both, we asked respondents to indicate the proportion of teaching devoted to each. The responses indicate that instruction regarding the primary disorder, rather than the complications of drug abuse or alcoholism, predominates in most substance

TABLE 9.—*Alcoholism: Skills taught in substance abuse courses*
(n = 671)

Type of skills	Number of courses teaching skills	Percent
Diagnosis/differential diagnosis	381	57
Interviewing/examination	313	47
Medical treatment methods other than counseling	275	41
Referral/collaboration in other rehabilitation programs	266	40
Counseling	222	33

TABLE 10.—*Drug abuse: Information taught in substance abuse courses*
(n = 672)

Type of information	Number of courses teaching information	Percent
Complications, medical/psychiatric	402	60
Definitions/description	399	59
Poisoning/overdose	346	52
Treatment/rehabilitation	331	49
Pharmacology	308	46
Social complications, including legal	294	44
Etiological factors/ prevention	264	39
Epidemiology	254	38
Pathology	235	35
Legal regulations, including history	176	26
Self-help groups	150	22
Public health aspects	144	21
Public education	97	14

abuse teaching activities. (See table 12.) Nearly 60 percent of the required substance abuse teaching activities are reported as devoting more than half of their time to the primary disorder (table 13).

TABLE 11.—*Drug abuse: Skills taught in substance abuse courses*
(*n* = 671)

Type of skills	Number of courses teaching skills	Percent
Diagnosis/differential diagnosis	327	49
Interviewing/examination	271	40
Medical treatment methods other than counseling	244	36
Referral/collaboration in other rehabilitation programs	224	33
Counseling	183	27

TABLE 12.—*Division of teaching time between primary disorder and complications—all courses*

	Number of courses	Percent
Teaching activities that devote more than ½ time to primary disorder	341	58
Teaching activities that devote more than ½ time to complications	189	32
Teaching activities that devote ½ time to each	58	10

TABLE 13.—*Division of teaching time between primary disorder and complications—required courses*

	Number of courses	Percent
Teaching activities that devote more than ½ time to primary disorder	246	55
Teaching activities that devote more than ½ time to complications	158	35
Teaching activities that devote ½ time to each	42	9

This may seem to contradict the information in table 10, where complications are shown as the most commonly taught topic. Tables 8–11, however, do not have mutually exclusive categories; complications may be mentioned in a larger number of courses while the primary disorder may actually receive the greater amount of teaching time.

Method of teaching

Although lectures seem to be the most prevalent teaching method, students are taught about substance abuse by a variety of methods in a variety of settings. Students visit hospitals, community alcohol and drug programs, and self-help groups; they attend seminars, view demonstrations and films or tapes; and they gain practical experience in hospital or outpatient clerkships (tables 14 and 15).

Affiliated programs

The medical schools were asked whether they had, in their university-affiliated hospitals or other affiliated clinical programs, one or more separate and identified treatment and rehabilitation programs for alcoholism and/or drug abuse. Twenty percent of those responding to this question have none, 46 percent have one or two affiliated programs for treatment of substance abuse, and 34 percent have three or more.

TABLE 14.—*Educational methods used in substance abuse teaching*
(*n* = 667)

Teaching method	Number of courses using method	Percent
Lecture	472	71
Seminar	274	41
Hospital clerkship	209	31
Film or video tape	172	26
Demonstration	175	26
Outpatient clerkship	132	20
Field trip	69	10
Self-instructional packet	67	10

Location or site of teaching

TABLE 15.—*Educational facilities used in substance abuse teaching* (n = 658)

Facility	Number of courses using facility	Percent
Medical school classroom	445	68
University affiliated hospital	305	46
Community hospital	81	12
Community alcohol or drug program	81	12
Library, learning center, etc.	46	7
Self-help group	31	5
Jail, prison, or other correctional facility	17	3

Residency teaching

We asked each school to identify those residency programs which included some substance abuse teaching. Table 16 summarizes their responses.

TABLE 16.—*Residency programs that include substance abuse teaching*

Number of residency programs that include substance abuse instruction	Number of schools	Percent
0	49	49
1	31	31
2–6	19	19

The residency programs that were reported as including substance abuse teaching were as follows: Psychiatry, 51; medicine, 13; family practice, 7; neurology, 6; pediatrics, 5; anesthesiology, 3; pathology, 1; ob/gyn, 1; surgery, 1.

Continuing education

One of the more disappointing statistics to come from the survey data relates to continuing education. Of the 105 medical schools that replied to the survey, only 17 indicated that they offer any continuing education programs dealing with substance abuse.

Interrelationship of Findings

Correlations and cross-tabulations

We ran correlations and cross-tabulations to identify factors that might be affecting the amount of substance abuse teaching in medical schools. The number of substance abuse teaching activities (courses) and the required substance abuse hours were correlated with age of school, first-year enrollment of school, total enrollment, and city size. We found a small but significant correlation between the number of substance abuse teaching activities and the population of the city in which a medical school is located (r = 27). The number of required substance abuse hours did not correlate with school age, enrollment, or city size.

Since we considered this the single item most reflective of actual teaching, additional tests were made with the number of *required* substance abuse hours. We compared mean required hours with geographical location, ownership, career teacher versus non-career-teacher schools, size of entering class, and size of city in which the school is located (broken down into categories as listed earlier). We found no significant differences between geographic location, ownership, or city size.

We expected the age of the medical school to be an important factor in the amount of time devoted to substance abuse education. Edward Stainbrook noted that it is sometimes difficult for established medical colleges to make necessary adaptations for inclusion of rapidly developing behavioral sciences relevant to medical theory and practice; the more recently founded schools have much more freedom in designing curriculum, hiring faculty, and obtaining space (9). Considering the recent public attention to substance abuse, encouragement by Federal and State Governments to teach it, and statements by medical educators that medical schools should devote more time to the topic, it seemed likely that newer schools with their greater flexibility would have more hours in drug abuse and alcoholism than the older, established schools. This impression had been strengthened by the experiences of several of the career teachers in substance abuse: The richest programs have been developed in three or four new schools represented in the career teacher group. The data from our nationwide survey, however, do

not support this relationship. Although the mean number of required hours in substance abuse teaching was higher for the newest medical schools, as shown in table 17 the differences between the groups are not statistically significant.

TABLE 17.—*Required hours devoted to substance abuse: Comparison of schools by age*

Date founded[1]	Number of schools	Mean required substance abuse hours
Before 1900	48	27.1
1900–1959	30	21.6
1960 and later	24	29.7

[1]Founding date from 1975–76 *AAMC Directory of American Medical Education.*

It may be that older schools have certain advantages that offset the newer schools' freedom of curriculum development in the area. For example, older schools may be in a better position to obtain Government grants designed to help them expand their drug abuse and alcoholism curriculums. They may also be more likely to possess clinical facilities necessary to substance abuse instruction.

Two factors that do appear to affect the amount of substance abuse teaching in a medical school are the presence of a career teacher and the size of the school. The mean number of required substance abuse hours is significantly higher for career teacher schools than for non-career-teacher schools (table 18).

TABLE 18.—*Required hours devoted to substance abuse: Comparison of career teacher and non-career-teacher schools*

	Number of schools	Mean required substance abuse hours
Career-teacher schools	39	36.3
Non-career-teacher schools	63	19.8

($p = .008$)

The mean number of required substance abuse hours is significantly greater for smaller medical schools than for larger medical schools. (See table 19.)

TABLE 19.—*Required hours devoted to substance abuse: Comparison of schools by size*

1st-year enrollment[1]	Number of schools	Mean required substance abuse hours
41 to 120	46	30.4
121 to 330	54	22.3

($p = .003$)

[1]1st-year enrollment figures from *JAMA 75th Annual Report on Medical Education in the United States, 1974–75.*

Findings for Career Teacher Schools Only

Since some of the results did not agree with our preexisting impressions, such as relationship between age of school and substance abuse hours, we repeated some of the analyses using only career-teacher schools. The findings regarding age of school are summarized in table 20. Although there is a trend in the career teacher group for the newest schools to have the most required substance abuse hours, the differences between the groups are not statistically significant.

TABLE 20.—*Career-teacher schools required hours devoted to substance abuse: Comparison of schools by age*

Date founded[1]	Number of schools	Mean required substance abuse hours
Before 1900	19	32.8
1900–1959	11	33.4
1960 and later	9	47.1

[1]Founding dates from 1975–76 *AAMC Directory of American Medical Education.*

With the career teacher schools only, the publicly owned schools have significantly more required hours of substance abuse teaching (40.6) than private schools (29.3). Another difference is that in career teacher schools only, there is some relationship to section of country, with western schools averaging 49.4 required hours in substance abuse, northeastern 24.1 hours, and southeastern 44.2 hours.

Case Examples

We want to illustrate the general findings by describing the curriculum of one school with a rich and

full program in substance abuse and one school with a very limited curriculum. For each of these schools, the questionnaire was completed by an associate dean.

School A—full program

1. Departments and divisions involved in substance abuse teaching: medicine, community medicine, psychiatry, pharmacology, pathology, adolescent medicine.
2. Affiliated clinical programs in substance abuse: Five hospitals are listed, three with two programs each.
3. The introduction-to-medicine course includes 6 hours on substance abuse.
4. The pharmacology course includes 10 to 12 hours on substance abuse.
5. The community medicine course includes about 2 hours per week (for the academic year) with one family; many of these families have alcohol or drug problems.
6. Pathology: includes teaching about substance abuse.
7. Medicine: includes about 3 hours on substance abuse.
8. Electives: nine separate electives offered by several departments. They range in duration from a few hours to 2 months.

School B—limited program

1. Departments and divisions involved in substance abuse teaching: psychiatry, pharmacology, pathology.
2. Affiliated clinical programs in substance abuse: none listed.
3. The pharmacology course includes three lectures, which deal primarily with the pharmacology of drugs and alcohol, and a 40-minute film on overdose.
4. The sophomore psychiatry course includes 1½ hours on substance abuse.
5. Preventive medicine includes 1 to 4 hours on alcohol and drug dependency.

Survey Findings for Osteopathy Schools

All nine of the osteopathy schools in the United States, located mostly in the Midwest, Texas, and Oklahoma, replied to the questionnaire. Because there were only nine, it was not feasible to subdivide the osteopathy schools by class size, location, etc., for correlations and cross-tabulations. Therefore, osteopathy schools will be described as a single group and will be compared to medical schools.

Osteopathy schools compare favorably to medical schools in the number of hours and courses in substance abuse. They require an average of 26.8 hours in substance abuse compared to 25.7 for medical schools. However, more of the teaching is concentrated in the basic sciences. Of the 58 undergraduate courses reported only 9 are in the clinical years (16 percent), in contrast to medical schools where 40 percent of the undergraduate substance abuse courses are offered during the clinical years. Only one osteopathy school indicated that it had affiliated clinical programs for the treatment of alcoholism and addiction. Of all 58 courses reported, 16 (28 percent) offer some hospital clerkship experience and 4 (7 percent) offer some outpatient clerkship experience. In short, while osteopathy students apparently receive more basic science instruction in substance abuse than medical students, they seem to have considerably fewer opportunities for clinical experience.

Responses from osteopathy schools were similar to those from medical schools in several areas. As with medical schools, most (74 percent) of the substance abuse teaching activities are required, most (68 percent) deal with both drug abuse and alcoholism, and most deal with the primary disorder rather than complications. Like medical schools, osteopathy schools reported lecture as the teaching method most frequently used.

Osteopathy schools emphasize much of the same information—definitions and description, medical complications, poisoning, and overdose—as medical schools. However, osteopathy schools seem to place greater emphasis on pathology than medical schools: It is taught in 67 percent of the courses that deal with alcoholism (compared to 42 percent of the medical school courses dealing with alcoholism). As with medical schools, the skills most frequently taught are diagnosis and differential diagnosis.

Osteopathy schools divide substance abuse teaching more evenly among various departments than medical schools. As with medical schools, psychia-

try is the department most frequently teaching substance abuse. However, in osteopathy schools, only 17 percent of the substance abuse courses are offered by psychiatry, compared to 40 percent in medical schools.

DISCUSSION

Limitations of Data

Because of the slow rate of return, this report is not a snapshot at one point in time; rather, it represents data collected over a period of more than 1 year. If a gradual change in medical school curriculums is underway, such as a tendency to increase the time devoted to alcoholism and drug abuse, we may have caught different medical schools at different points in this change.

The rate of return was less than 100 percent. It might be presumed that those schools that did not reply had less interest and less teaching in substance abuse. However, three schools that had appointed career teachers did not reply, giving career teacher schools, which are clearly interested in substance abuse, only a slightly higher rate of return than medical schools as a whole.

The questionnaire replies vary widely in completeness and evidence of care in preparation. Therefore there may be a systematic bias in the data because those schools stressing alcohol and drug abuse, such as career teacher schools, may tend to identify and list more completely their substance abuse teaching activities.

The main purpose of the site visits was to determine if any of these limitations had led to systematic distortions, and it was our conclusion that there were no serious distortions.

We have additional information on most of the schools which have career teachers in the form of personal reports, grant requests, etc. However, we did not use these data in this report; to provide comparability with other medical schools, we have used only the information sent in response to our questionnaire.

We had to be arbitrary in classifying certain schools as career teacher or non-career-teacher schools. We listed as a career teacher school each school from which an application had been sent in and ap proved, regardless of whether the career teacher ha held an appointment for 1, 2, or 3 years. In som cases, former career teachers had moved to othe medical schools, but in such cases only the origini medical schools were counted as career teache schools. We also chose to include three schools tha had faculty members who attended career-teache meetings and functioned in most respects as caree teachers but who were on some other form o support.

Some medical schools received career teacher granti very early in this program, while others have received them only recently. If some systematic expansion in curriculum results from a career teacher appointment, it may take 1, 2, or 3 years to become evident. Thus, we probably caught the several career-teacher schools at different phases of this development.

Conclusions

It would be of interest to compare our findings concerning the present state of the art in substance abuse teaching with the situation at previous times, but this is not strictly possible since a survey as extensive as ours has not been reported previously. At the October 1972 Macy Conference, it was stated that only 63 of the 120 schools of medicine in the United States and Canada offered electives in some aspect of drug abuse, and 45 had subjects in the curriculum dealing with alcoholism (10). Our data indicate that 102 of the 105 U.S. medical schools that replied to our questionnaire offer at least some substance abuse teaching, showing that the situation has clearly improved. The report of the 1970 NCA Conference on Professional Training on Alcoholism reported a "survey of existing facilities and medical school programs" that included 35 medical and osteopathic schools, but it is not clear how this sample was selected or obtained (11).

We looked at the reports from individual schools in the 1970 NCA Conference Report, and compared each of them with the report from that school in our survey to see if there had been changes. This turned out to be extremely difficult and perhaps impossible for these reasons:

1. The 1970 NCA report dealt only with alcoholism, whereas our survey dealt with both alcohol and drug

abuse, and it was difficult for us to separate these two components.

2. The 1970 reports were typically not quantitative in that they did not give the number of hours spent on an activity.

3. The 1970 report did not distinguish in most cases between required teaching and elective teaching; much of what was presented appeared to be elective offerings.

About the most we can say from this comparison is that few schools seem to have regressed in their amount of teaching, and several schools seem to have strengthened their alcoholism teaching considerably.

Although there evidently has been an overall increase in substance abuse teaching, a significant number of medical schools still teach very little about alcoholism and drug abuse. Three questionnaire respondents indicated that their schools teach nothing about substance abuse (or, in one case, no "formal" teaching). It seems unlikely that the subject is *never* mentioned in their curriculums. However, since the questionnaire was mailed to the dean of each medical school, who could either complete it or ask an interested faculty member to do so, such a negative reply certainly seems to indicate a lack of interest. Twenty-five percent of the responding schools indicate 5 or fewer required hours in substance abuse; 38 percent offer no electives in the field; 43 percent offer five or fewer courses dealing with the subject; and 20 percent have no affiliated clinical programs for the treatment of drug abusers and alcoholics.

We also reached some conclusions about how best to assess substance abuse teaching. Three solid indicators of the amount of substance abuse teaching in a medical school appear to be the number of required hours devoted to the subject, the number of total and/or elective courses that deal with it, and the presence of affiliated clinical programs for drug abusers and alcoholics. It is important to deal with the number of courses as well as the number of hours because for some teaching activities, especially the electives, respondents could not tell us exactly how many hours were represented; the best answer they could give us was "variable." The existence of treatment programs is important because they provide practical experience in the field; a good, solid, didactic, basic science background may be wasted if the student never sees an alcoholic or addicted patient.

It appears that although the general situation has improved, we still have a long way to go. The state of the art of substance abuse education is improving but is still only minimally satisfactory.

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2. Medical Education in Alcohol and Drug Abuse: The Career Teacher Program

Marc Galanter, M.D.

Alcoholism and drug abuse have been slow in gaining recognition as legitimate medical illnesses, in large part because of the social forces which have influenced their treatment. This introductory section deals with recent developments in medical education in these illnesses on a national and local level. They center around a federally funded Career Teacher Program in Alcohol and Drug Abuse, which to date has established faculty members at 43 American medical schools and has led to the development of a national organization for medical education and research in substance abuse.

MEDICAL EDUCATION AND THE SOCIAL CONTEXT

The issues addressed reflect a consistent tendency of society to segregate certain of its members and label them as defective and undesirable. This is well illustrated by Foucault (1) in his history of Western European attitudes toward the mentally ill. He notes that after virtual disappearance of leprosy from Europe in the early 17th century and the consequent close of the leprosaria, attitudes toward the psychologically disturbed and behaviorally deviant began to change. Over several decades, asylums and "ships of fools" were established to assure the isolation of these unfortunates, who had been previously allowed to mingle freely among the general population. As time went on, they were treated with increasing severity, and it was only some two centuries later, with the advent of "moral treatment" for mental illness, that humane attitudes toward the mentally ill were widely applied in Europe.

The labeling of the rejected, with their consequent inhuman treatment, can also be seen in American attitudes toward the opiate addict. This arose specifically after the use of opiates came to be associated with the oriental laborers of the Pacific Northwest, a socially rejected group, in the late 19th century. The chronic, socially debilitated alcoholic has come to occupy an analogous rejected role, and the person with alcoholism was similarly presumed to be morally afflicted.

It was therefore not unlikely that these social forces would serve to define the scope of medical education in the addictions. Indeed, the sensitivity of medical education to social forces is clearly illustrated by the change in the scope of medical education in the half century following the Flexner report of 1910. In the late 19th century, medical school faculties in the United States were almost exclusively composed of the practicing profession. While influenced by European scientific rationalism, this report began a profound transformation on American medicine, leading toward an orientation based on scientific investigation and biomedical research. Interestingly, this is being modified considerably with emphasis on a new social issue of health care as a human right. Primary care medicine, as an emerging model for the physician's role, may thereby return us to the humanistic physician as a medical role model.

ALCOHOL AND DRUG ABUSE GAIN RECOGNITION

Social trends are hard to discern in their early stages. It is clear, however, that over recent decades the country is beginning to deal more dispassionately with the issues of alcoholism and drug abuse. The development of Alcoholics Anonymous has had an

important effect on American attitudes. AA illustrated that the alcoholic person might regain a constructive place in society and was therefore not beyond reclaim. It also showed that the recovered alcoholic, an upright citizen, was apparently not a tainted or incompetent person.

A rather different circumstance influenced public willingness to approach the problems of opiate addiction from a nonjudgmental stance. The heroin epidemic of the late 1960s and the consequent attempts to find a large-scale solution led the country to place some 80,000 Americans in methadone maintenance treatment programs. We were surprised to find out that this medically based approach achieved a considerable measure of success and were well aware that additional sophisticated approaches were necessary for other addiction problems.

What changes are coming about in physicians' attitudes toward alcohol and drug abuse? It is well documented that alcohol and drug abuse are etiologic or precipitating factors in a large portion of medical illnesses. One series of hospital surveys (2) indicated that one-fifth of male medical ward patients are alcoholics. For most of these patients alcohol was a primary precipitant of their illness. In psychiatric services, substance abuse was found to be a major factor involved in two-fifths of inpatient admissions (3) and one-half of emergency room visits (4) in two university teaching hospitals.

Despite these findings, the clinical importance of substance abuse is generally underplayed in medical education. This largely reflects physicians' attitudes toward the addictions as issues which hold only a secondary place in their discipline. The American Medical Association, however, through its Council on Mental Health, issued a position paper in 1972 on the importance of placing greater emphasis on drug and alcohol abuse in medical education (5). It emphasized that medical educators' efforts should be directed at correcting prevailing stereotypes, and that students should be sensitized to the physician's function as a gatekeeper to available drugs for the abuser. A literature on professional training in alcoholism and drug abuse was beginning to develop, derived both from actual medical school curriculum (6) and from national conferences, such as one sponsored by the National Council on Alcoholism (7).

THE CAREER TEACHER PROGRAM

In this context, the Federal Government in 1971 undertook planning of a program which would support medical school faculty members interested in teaching on substance abuse for a large number of medical schools. The faculty, designated as career teachers in alcohol and drug abuse, were to be supported in this work by a Federal grant for a period of 3 years. Upon the establishment of the National Institute on Alcohol Abuse and Alcoholism and the National Institute on Drug Abuse, the career teacher program was undertaken as a joint endeavor by the new Institutes. At present the program is operating on 43 campuses across the country, with others soon to be approved. Of the current career teachers, 33 are physicians, primarily psychiatrists. Internists, pharmacologists, and specialists in public health are also participating.

In addition to the individual career teachers, two national training centers were designated, one at the State University of New York, Downstate Medical Center, and the second at Baylor College of Medicine. These programs were principally charged with providing onsite training in the form of course work and apprenticeship-type exposure for the new career teachers. As it became apparent that many of the career teachers were relatively sophisticated in the area of substance abuse, the training centers undertook additional functions, including preparation of bibliographies on current literature, development of resource handbooks, and ongoing evaluation of the program.

One important aspect of the program in which the centers took part was the development of national conferences three times a year, attended by the entire career teacher group. These conferences served to develop a common perspective and to allow for exchange of specialized information. Perhaps more important, however, they generated a spirit and feeling of community which allowed the career teachers to return to their respective institutions and deal with the professional isolation which characterized the role of the specialist in addictive illness.

As the award period came to an end for many career teachers, it became increasingly apparent that there was a great necessity for assuring continued involve-

ment in the substance abuse teaching field. The academic systems from which teachers came often maintained regressive outlooks on addiction, which permeated academic and clinical structures, and which could not be transformed over the course of only 3 years. To assure continuation of their work, the career teacher group has established the Association for Medical Education and Research in Substance Abuse. This group, initially synonomous with the Career Teachers and Training Center faculty, is to serve as the nucleus for an organization directed at augmenting the course of substance abuse training, research, and treatment on medical campuses throughout the country.

On the national level, there have been additional undertakings, such as presentations at medical and scientific conferences, ranging from the research conducted over the period of the grant to new teaching and clinical techniques. The career teachers have also collaborated with the National Board of Medical Examiners in formulating questions on substance abuse for the national boards. In addition, continuing education courses have been presented at national conferences and conventions, such as the American Psychiatric Association Convention and the National Drug Abuse Conference.

ACTIVITY IN THE MEDICAL SCHOOLS

Although much work has been done on the national level, the principal aim of the career teacher program is to improve the training in drug abuse and alcoholism in the teachers' respective undergraduate medical schools. Before appointment, teachers generally had an area of expertise within the substance abuse field and subsequently expanded on their work in that area. The initial task for the career teacher was to evaluate the overall pattern of courses and to plan a strategy for filling in the needs which had not been met. Alternatively, in a school with minimal teaching on the subject, s/he could initially develop his/her own "model" curriculum. These strategies involved two possible approaches. The teacher might expand his/her work from within his/her own department, building on associations and curriculum time available there. Alternatively, s/he might begin by undertaking work on an interdepartmental basis, contacting other departments' chairpersons and course directors at the outset, so as to negotiate a broader base for development.

Since many career teachers were generally known for their expertise in substance abuse at their respective institutions they were often in a position to contact members of various departments and discuss curriculum needs. Often other faculty initiated contact, hoping to fill gaps in their own training programs. At other times, a teacher's role as clinical consultant led to new teaching opportunities.

The curricular exercises themselves often had a strong emphasis on active student participation, in order to provide the best opportunity for attitudinal change. Such participatory exercises have been used in a variety of contexts, such as in care of the dying patient (8). It has also been demonstrated that medical students report the most meaningful learning experiences to be those which involved a high degree of active participation rather than passive observation (9). In light of the singular importance of attitude change in the area of substance abuse, this approach appeared to be even more essential. For example, one approach often undertaken was to have students interview alcoholics and addicts in the first year of medical school. This helped to desensitize anxieties about the nature of addiction and to engender a more realistic view of the patients as people. Role-playing exercises were frequently used, and surveys on the alcohol and drug use of the students themselves were taken. These latter data were then used to provide comparison for students with other population groups of the same age and were used as entree into the important issue of physician alcoholism and drug abuse (10).

FUTURE OPTIONS

Much interest centers around the establishment of the Association for Medical Education and Research in Substance Abuse. With this organization, with the maturation of the career-teacher group, and with the influx of new career teachers it is hoped that new educational options will develop. The prospect of a national network of educators in this field would certainly facilitate their implementation.

Advances have already been made: In an initial survey of the earliest group of career teachers, it was

found that curriculum time devoted to substance abuse increased by a factor of 2.1 in the preclinical years and by 2.8 in the clinical years. This additional time should be carrying with it increased sophistication and a less prejudiced perspective regarding both treatment options and the humanistic concern for the abusers.

Much effort, however, must be devoted to the clinical programs, because the positive attitudes engendered in students are so often disrupted once they begin work on the hospital wards, where the treatment system operates with built-in prejudices against the addictive illnesses (11). Because of this, there is a growing sense of the responsibility of career teachers to the practicing physicians. This has led to the development of training packages for graduate physicians, as well as the liaison necessary with local medical societies and hospital staffs. It has become clear that the scope of the program necessary for achieving its goals is quite broad.

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Curriculum Material

3. Physician Education in Substance Abuse: Curriculum Objectives

Donald I. Davis, M.D.

In recent years, public awareness of the physical, emotional, and social problems associated with the abuse of alcohol and other psychoactive substances has increased dramatically. With this trend has come the awareness that many physicians have been inadequately educated regarding the nature, recognition, and treatment of patients with substance abuse problems. In 1972, there appeared an official AMA committee statement on medical school education in substance abuse (1). In it, the need for medical education on the abuse of alcohol and other drugs is outlined, and a number of key areas of content are delineated. Shortly thereafter, a report from a conference of prominent medical educators, sponsored by the Macy Foundation (2), was issued. This report presented a strong case for the need to improve medical education in substance abuse. In his editorial on needs in future medical education (3), E. Gray Diamond, past president of the American College of Cardiology, also has made a strong statement on the need for increased medical school education in substance abuse.

The question of physician education in substance abuse goes far beyond the area of curriculum content. Articles have also appeared on such topics as the attitudinal barriers of physicians in dealing with patients who have problems related to drug and alcohol abuse (4,5), as well as the high incidence of addiction among physicians and the problems of denial among their colleagues and themselves (6).

Steps have been taken from outside the profession as well to bring about an upgrading of medical education on substance abuse. One of these was Federal legislation creating the Career Teacher Program in Alcohol and Drug Abuse. The intent of the program was to support a medical school faculty member to devote his time to the development and implementation of curriculum in substance abuse. There are presently career teachers at 43 medical schools throughout the country. There are, in addition, two medical-school-based training centers to assist the career teachers in their endeavors. The present report is one outgrowth of the program.

Since 1973, members of the career teacher program have met on a regular basis three times a year. Out of these meetings have evolved small work groups on key topics such as curriculum content, teaching methods, and the evaluation of teaching in substance abuse. There also evolved an organization, the Association for Medical Education and Research in Substance Abuse (AMERSA), which allows ex-career teachers to maintain contact with the program and allows career teachers and others to share and exchange teaching methods and research findings.

The list of objectives that follows presents the work of the AMERSA Committee on Substance Abuse Teaching Objectives. These are not intended to mandate how all medical schools are to teach about substance abuse, but they are intended to convey the opinion of experts as to what should be included in a medical curriculum on substance abuse. The goal has been to make available a broad scope of objectives to which schools can turn for guidance, both to maximize their own strengths and to cover areas of relative weakness while maintaining minimum standards.

The objectives are grouped according to subject areas that the committee found most helpful. They are not intended to be recommendations for course or lecture headings. Also, it is not felt that the order in which these objectives appear need be their order in a medical school curriculum. Where the committee has taken a stand is on establishing priorities within subject headings. These priorities are provided solely for the benefit of those curriculum committees and teachers who may be relatively new to the field and who have not yet formulated their own priorities or determined their own best approaches to the teaching of substance abuse. Under each subject heading, appear first the overall objectives. These are sometimes called terminal objectives and refer to goals or expectations of students once they have completed their formal education. The overall objectives are followed by a longer and more detailed set of objectives, often called enabling objectives, which is intended to provide teachers with guidelines as to the content of their teaching to accomplish the overall objective. These are guidelines which, through experience, have appeared most helpful in developing curriculums in this often ignored, yet crucial, area.

CURRICULUM OBJECTIVES

DEFINITIONS

1.[1] Define the following as they relate to substance abuse:
   a. Abstinence
   b. Abuse
   c. Abuse potential
   d. Addiction
   e. Antagonism
   f. Cross-dependence
   g. Cross-tolerance
   h. Dependence
   i. Enzyme induction
   j. Habituation
   k. Idiosyncratic reaction
   l. Misuse
   m. Physical dependence
   n. Potentiation
   o. Prevention: primary, secondary, tertiary
   p. Psychoactive
   q. Psychological dependence
   r. Synergism
   s. Tolerance: metabolic, pharmacologic, behavioral
   t. Withdrawal syndrome
2.[1] Describe various models of substance abuse (e.g., medical model, learning model).
3.[1] Contrast the alcoholic with the problem drinker.
4.[1] Contrast the addicted to the nonaddicted user.
5.[2] Differentiate between an objective medical versus a moralistic understanding of "alcoholism" and "drug abuse."
6.[2] List common criteria of substance abuse versus use in terms of duration and frequency, social consequences, licit versus illicit.

EPIDEMIOLOGY—GENETICS

1.[1] Outline various methods available to conduct and evaluate epidemiologic studies of population groups regarding substance abuse, incorporating incidence, prevalence, mortality, and morbidity.

[1] Highest priority.
[2] Recommended.

2.[2] Describe evidence about the role of heredity in the development of substance abuse (e.g., Winokur's hypothesis and enzyme polymorphism).

3.[2] List the incidence/prevalence rates for use/abuse of various substances for the Nation and for selected populations (defined by demographic and other characteristics such as associated diseases and inpatient/outpatient).

4.[2] Describe the use of epidemiologic data for the development in governmental and program planning of prevention, detection, and treatment.

BASIC SCIENCES (BIOCHEMISTRY, PHYSIOLOGY, PHARMACOLOGY, PATHOLOGY)

1.[1] Be able to do the following:

a. Compare alcoholism as a nutrient with carbohydrates, proteins, and fat.

b. Describe the reasons for nutritional deficits occurring with a high intake of alcohol.

c. Describe the effect of alcohol on vitamin metabolism, particularly: pyridoxal phosphate (vitamin B_6), thiamine (vitamin B_1), ascorbic acid (vitamin C), and vitamin A.

2.[1] Diagram the major metabolic pathways of alcohol degradation (include the major enzymes).

3.[1] Describe the physiology and biochemistry of dependence and addiction, with special reference to the brain and liver.

4.[1] List the types of substances of abuse, as per Goodman and Gilman. List some street names associated with each of these types of substances.

5.[1] For commonly abused drugs, describe or outline—

a. Dosage levels and therapeutic range
b. Common behavioral and physiological effects
c. Common behavioral and physiological side effects
d. The physiology of withdrawal
e. The absorption, distribution, metabolism, and elimination

6.[1] Explain drug-drug interactions among commonly abused substances, and between them and prescription drugs of any kind. List clinically significant examples.

7.[1] List the acute and chronic pathologic effects of commonly abused drugs on the following systems:

a. CNS and PNS
b. CVS
c. GI
d. Skin
e. Respiratory
f. Endocrine
g. Hematopoietic

8.[1] Describe the ways in which detection technology is applicable to diagnosis and treatment of substance abusers.

9.[2] Outline the pharmacologic action of disulfiram in the presence of alcohol.

10.[2] List various roots of administration and describe the marked differences in the effects mentioned in item 4.

11.[2] List the common adulterants of street drugs.

12.[2] List the naturally occurring substances in blood that chemically resemble various drugs of abuse.

SOCIOCULTURAL FACTORS

1.[1] Compare and contrast substance abuse patterns in ghettos, suburban areas, and among medical school faculty. Outline a prevention program for each.

2.[1] Evaluate the role of peer pressure in the prevention, development, and maintenance of substance abuse.

3.[1] Describe factors which make physicians particularly susceptible to abuse of specific substances.

4.[1] Discuss health care as a mechanism for addressing the needs of deviants (not in the negative sense) in our society. Include a discussion of "correctional theory" versus "labeling."

5.[2] Describe the ways in which cultural factors influence the use of various substances using all of the following groups: Italians, Jews, Irish, French, Chinese, and blacks.

6.[2] Describe the ways in which the ritual and/or religious use of a substance relates to the development or prevention of abuse and dependence.

7.[2] Describe economic and political issues that contribute to the growth and stability of substance abuse.

PSYCHOLOGICAL FACTORS

1.[1] Describe the concept of the addictive personality and the controversy surrounding it.

2.[1] Describe the concept of substance abuse as a symptom of an underlying emotional disorder.

3.[1] Apply learning theory (e.g., classical, operant conditioning, etc.) to the phenomenon of substance dependence.

4.[1] Describe how drugs as stress coping mechanisms can affect various phases of the individual life cycle.

5.[1] Describe the role of denial as a defense mechanism in the substance abuser.

6.[1] Compare and contrast the concepts of suicide, self-destructive behavior, and substance abuse.

7.[1] Describe the concept of self-medication of psychiatric symptoms. Include in the description sleep disturbance, depression, anxiety states, psychotic disorders, and personality disorders.

8.[1] List nonpharmacologic factors (e.g., set, setting, and placebo) that contribute to the occurrence of an acute toxic (both positive and negative toxicity) drug response. Explain the contributions of preexisting psychosocial pathology and current life and interpersonal stresses.

9.[2] Explain how substance abuse can be a form of coping and adaptational skill development.

10.[2] Describe psychodynamic theories (e.g., drive and anxiety reduction) of the phenomenon of substance abuse.

11.[2] Describe how the behavior patterns and lifestyles of substance abusers predispose them to prevarication.

12.[2] In any given patient there is a complex interaction of psychological, social, and pharmacologic factors. Compare and contrast at least four conceptual models, explaining the relation of these factors to the addiction process.

DIAGNOSIS AND TREATMENT OF OVERDOSE

1.[1] List the expected pathophysiology of overdose from each of the separate substances of abuse.

2.[1] Describe the appropriate pharmacologic, psychologic, and supportive intervention with overdose from each of the separate substances of abuse.

3.[1] List expected psychopathologic states with overdose from each of the separate substances of abuse.

4.[1] List the signs found on physical examination of overdose to each of the substances of abuse. Describe the continuum of signs present with low versus high doses of the substance.

5.[1] Outline the differential diagnosis of skull injury, hypoglycemia, diabetes, stroke, etc., and drug overdose or toxicity.

6.[2] Outline the specific treatment for recurrent seizures from drug overdose.

DIAGNOSIS AND TREATMENT OF WITHDRAWAL STATES

1.[1] List the expected pathophysiology of withdrawal from each of the separate substances of abuse.

2.[1] Describe the appropriate pharmacologic, psychologic, or supportive intervention with withdrawal from each of the separate substances of abuse.

3.[1] List the expected psychopathologic states with withdrawal from each of the separate substances of abuse.

4.[1] List the signs found on physical examination of withdrawal from all of the substances of abuse. Describe the continuum of signs present with increasing dosage of the substance.

[1]Highest Priority.
[2]Recommended.

5.[1] List several medical complications which may accompany or precipitate withdrawal.

6.[1] List the substances of abuse which have no withdrawal syndromes.

7.[1] Describe the settings, procedures, and persons necessary to treat withdrawal from the various substances of abuse.

8.[2] Outline the specific treatment for recurrent seizures from drug withdrawal.

9.[2] Outline the basic steps in the differential diagnosis of recurrent seizures that may be related to use of substances.

DIAGNOSIS AND TREATMENT OF SUBSTANCE ABUSE

1.[1] Describe the clinical aspects of substance abusers which might arouse feelings such as anger, fear, and anxiety in the physician, and how these feelings might lead to inhibitions about treatment.

2.[1] Describe the phenomenon of relapse in substance abuse and its implications for treatment.

3.[1] Describe how the concept of continuity of care applies to the substance-abusing patient.

4.[1] Describe the spectrum of effects (signs and symptoms) of intoxication with each of the substances of abuse.

5.[1] Having detected intoxication, outline the extended common course of treatment available irrespective of the substance involved.

6.[1] Describe the signs, symptoms, psychopathology, and diagnostic criteria for chronic dependence on each of the major categories of substances of abuse. Describe the common factors in chronic dependence.

7.[1] Outline a substance abuse history and how it should be taken to include presenting problems, history of dependency, genetic factors, early developmental experiences, and social factors.

8.[1] Given the realities of denial, prevarication, and lack of collaboration in treatment by substance-abusing patients, describe an approach to supportive, nonrejecting confrontation of patients with substance abuse problems which would facilitate appropriate treatment intervention.

9.[1] Describe approaches of intervention with the physician who has become dysfunctional because of substance abuse.

10.[1] Describe practices for the safe and efficacious prescription of various psychoactive substances. Include dose and frequency, course of drug, emphasis on nonpharmacologic therapies, and specificity of target symptoms for which drug is used.

11.[1] For the emergency treatment of possible drug-related conditions, outline the basic steps in diagnosis and the priorities in treatment of comatose patients, emphasizing vital support systems: respiratory, cardiovascular, IVs, urinary output, etc., and specific antidotes, e.g., naloxone.

12.[1] List at least six findings on physical examination that would be either pathognomonic or highly suggestive of current drug use, intoxication, or withdrawal.

13.[1] List specific medical complications of chronic drug abuse which would be detected on a general physical examination.

14.[1] Outline what must be covered in a psychosocial history to rule out adequately the presence of social consequences of substance abuse, with emphasis on (1) work history, (2) marital difficulties, (3) repeated accidents, (4) legal problems, and (5) social difficulties.

15.[1] List at least five treatment referral alternatives for substance-abusing persons. Outline an adequate referral to each of these facilities.

16.[1] Compare and contrast the positions that recommend the cautious use, versus the avoidance, of psychoactive drugs in the treatment of substance abuse, with particular reference to never-addicted, presently addicted, and previously addicted individuals.

17.[1] Describe three central points in the course of evaluation and treatment where family involvement can be of benefit.

18.[1] Describe how to motivate substance-abusing patients. Include problem areas, appropriate and inappropriate reinforcers, current personality variables, AA referral, religious supports available, etc.

19.[1] List at least four criteria of successful treatment of the substance abuser.

20.[1] Describe why pharmacologic intervention may frequently be inappropriate in certain cases of intoxication.

21.[1] Describe the implications for treatment of the concepts "The patient is a substance abuser" and "The patient has a substance abuse problem."

22.[1] Describe principles of crisis intervention, therapeutic community, and chemotherapeutic approaches for substance abusers. Compare and contrast these approaches, including their applications in outpatient versus inpatient settings.

23.[1] List three questions that would help determine what substances of abuse an individual might be using.

[1]Highest Priority.
[2]Recommended.

24.[1] Describe social networks as contributors to substance abuse problems and as positive resources in the treatment strategy for the substance abusing patient.

25.[1] The therapeutic approaches to the drug-using patient are multifaceted and multidisciplinary. The major strategies are socio-therapeutic, psychotherapeutic, and chemotherapeutic. Delineate the modalities and outline factors that would be indications for each of these therapies.

26.[2] List special issues which are encountered in the consultative role to other physicians in their work with the substance-abusing patient.

27.[2] Explain the indications and limitations of each of the following three possible outcomes of psychiatric consultation for the substance abusing patient: (a) improved treatment by primary care physicians and staff, (b) acceptance of the patient for treatment by the consultant, (c) referral to another treatment agency.

28.[1] Compare and contrast criteria for and outcome of treatment for drug withdrawal: (a) hospitalized, (b) ambulatory.

29.[2] Evaluate the relative prognosis of persons who are substance abusers. Include the dimensions of type of drug, age, sex, acute-chronic, and different treatment modalities.

30.[2] List at least 10 subtle signs (other than drug-taking behaviors) of incipient or recurrent abuse.

31.[2] Complete the following table regarding direct and indirect medical complications of each category for the major drugs of abuse:

	Organ system	Medical complication	Treatment
Acute intoxication			
Acute withdrawal			
Long-term addiction			

32.[2] Outline the apparent prenatal and neonatal complications of maternal substance abuse.

33.[2] Describe the results of specific diagnostic tests such as urinalysis, breathalyzer, blood-drug levels, and blood chemistries which would suggest acute and chronic substance and/or withdrawal.

LEGAL, ETHICAL, HISTORICAL ASPECTS

1.[1] Define the current DEA categories of drugs—demonstrating understanding of their development and rationale. Where may a listing be found of these categories?

2.[1] List the Federal and State rules for prescription writing in each of the DEA categories.

3.[1] Describe the specific laws as they relate to medical practice for the following:
- a. Physician-patient communications
- b. Prescribing practices
- c. DWI, public intoxication
- d. Commitment and transfer procedures
- e. "Impaired physician" laws
- f. Breathalyzer, blood alcohol level analyses, and urine drug analyses

[1]Highest Priority.
[2]Recommended.

4.[1] Explain the medical ethics issues involved in the treatment of a substance-dependent patient, e.g., confidentiality, detection/treatment, and research.

5.[1] Outline the historical appearance and progression of use of alcohol, opium, marijuana, tobacco, sedative-hypnotics, amphetamines, and hallucinogens, and the various treatment approaches to treatment of abuse of these substances.

6.[1] Describe how drug and alcohol use by physicians influences their practice.

7.[2] Describe the legal measures that have been used historically to control the abuse of substances. Include the effects they have had.

8.[2] Demonstrate an understanding of the impact of the Uniform Alcoholism Act and the Narcotic Addiction Act on health care and research practices.

PREVENTION

1.[1] Demonstrate an understanding of primary, secondary, and tertiary prevention in relation to substance abuse (e.g., legal measures, educational methods, environmental manipulations, substitute preparations, technological control).

2.[1] Describe the role of various secondary/tertiary prevention models such as industrial programs, court-related programs, and fetal substance abuse detection programs on the early detection of substance abuse.

3.[1] List six ways in which attitudes of and behavior toward patients by house staff physicians influence the development by medical students of sound clinical skills in the treatment of substance abuse patients.

4.[2] Demonstrate an understanding of the role of the physician prescribing practice in the prevention of substance abuse.

5.[2] Outline a program of substance abuse prevention for the prevention of physician dysfunction from substance abuse.

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[1]Highest Priority.
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4. A Course on Alcoholism for Primary Care Physicians

George Jackson, M.D.

A review of medical literature reveals numerous articles calling for greater knowledge and improved attitudes for physicians in the field of alcohol use, abuse, and addiction. Other studies make reference to courses for a variety of health professionals other than physicians and investigate the impact of these on the participants.

Williams, VanLewen, and Breen (1) have studied the effect of a 6-day intensive alcoholism course on the participants as compared to a control group. The group attending Florida School of Alcohol Studies consisted primarily of nonphysician health professionals with enough interest in the field to attend a course. Their paper provides a detailed outline of the teaching program with topic areas and teaching methods, i.e., lecture, panel discussions, question-and-answer periods, and demonstrations. The investigators were able to demonstrate a change in knowledge and attitudes as compared to a pretest and the control, but a shift in behavior was not as readily apparent. One conclusion was that the school effected attitude shifts, but these changes seemed to bear little or no relationship to any change in behavior.

More and more educational courses and sessions are provided for physicians in the field of alcoholism as part of the general increase in emphasis on continuing medical education. The following curriculum is proposed as a model to provide some standardization in the educational effort. Additionally, an investigation of the effect of this curriculum not only on physician knowledge and attitudes but on behavior is urgently needed. To promote participation in an educational effort which results in more continuing medical education credits but no change in patient-related behavior is wasteful and promotes a false sense of progress.

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A COURSE ON ALCOHOLISM FOR PRIMARY CARE PHYSICIANS

Developed by a committee of the Association for Medical Education and Research in Substance Abuse

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INTRODUCTION

Health problems caused by exeessive use of beverage aleohol make up a large part of the primary care physician's praetice. Although most physicians feel competent to mansge the trauma caused by an aleoholie's driving misbap, many physicians feel unprepared and thus avoid dealing with the etiology of the trauma—alcoholism.

The goals and objectives and methodologie considerations provided will assist in the development of a continuing education program for the enhancement of proficiency on the part of primary care physicians in detecting, diagnosing, and managing the individual with problems related to excessive alcohol use.

PARTICIPANTS

These guidelines are designed with emphasis on the role of the primary care physician. Thus the intended participants are physicians who provide primary cate, including general praetitioners, family praetitioners, internists, emergency room physicians, and industrial physicians. Pediatricians, obstetricians, gynecologists, and psychiatrists who act as primary care providers would be included also.

GOALS AND OBJECTIVES FOR A 2-DAY CONFERENCE ON ALCOHOLISM FOR PRIMARY CARE PHYSICIANS

Goals

The primary care physician should be able to—
- Recognize patients who are at risk of alcohol dependence, patients who abuse aleohol, and patients who are dependent on aleohol.
- Intervene appropriately for treat ment.
- Feel comfortable in the recognition/intervention role.

Objectives

Detection/diagnosis

The primary care physician should be able to recognize the patient whose risk of aleohol abuse or dependence is above average. This individual may be defined by one or more of the following risk factors:
- Availability of alcohol to tbe individual.
- Cultural or ethnic background.
- Family history of alcohol abuse.
- Family instability/disharmony.
- Individual psychological factors, e.g., depression, anxiety, affective disorders.
- Job/occupation, e.g., physician, homemaker, bartender.
- Other known drug abuse.

The primary care physician should be able to recognize the patient who is or may be abusing alcohol. Such an individual may be identified by one or more of the following factors:

- Acute alcohol intoxication.
- Alcohol on breath.
- Blackouts.
- Continuing sleep disturbance and use of sleep medications.
- Driving while intoxicated.
- Episodes of loss of control of behavior.
- Frequent use of psychoactive drugs and drug-seeking behavior.
- Frequent work absence or tardiness.
- Liver abnormalities.
- Multiple somatic complaints and recurrent GI distress.
- Peripheral neuropathy.
- Sexual dysfunction.
- Repeated accidents (driving and other).

The primary care physician should be able to define and identify the patient who is acutely intoxicated with alcohol with particular attention to—

- Levels of consciousness associated with excessive alcohol consumption.
- Differentiation of CNS dysfunction due to alcohol from other causes. (A variety of other drug intoxications and conditions result in changes in consciousness and/or behavior similar to that seen in alcohol intoxication, e.g., diabetic coma, psychosis.)
- Other abnormalities frequently found in individuals who present with acute alcohol intoxication, e.g., subdural hematoma, GI bleeding.

The primary care physician should be able to define and identify the patient who is dependent on alcohol. Such an individual may be identified by one or more of the following:

- Presence of alcohol withdrawal syndrome:
  - Early—mild (tremors, agitation, insomnia).
  - Late—severe (delirium tremens).
- Tolerance to large amounts of alcohol.
- Presence of various medical complications, cirrhosis, pancreatitis, macrocytic anemia, organic brain syndrome, malnutrition, GI ulcer/bleeding.
- Sufficient criteria as described by the National Council on Alcoholism.
- Sufficient positive responses on the MAST test.

Intervention

The primary care physician should be able to efficiently treat the patient with acute intoxication, and to facilitate withdrawal from the dependent state without adverse effect (detoxification).

1. Acute intoxication: The following aspects are of particular importance in treatment:
   - Life support for the comatose patient (e.g., intravenous and respiratory support).
   - Calm discourse.
   - Sedative medication, e.g., benzodiazepine derivatives.
   - Possible referral to "sobering up" services.
2. Physical dependence: The following aspects are of particular importance in treatment:
   - Sedation of hyperactive central nervous system, e.g., paraldehyde, benzodiazepine derivatives.
   - Close observation for development of delirium tremens after early (mild) withdrawal state.
   - Vitamin therapy.
   - Observation for complications, e.g., infection, aspiration.
   - Observation for other sedative drug withdrawal.
   - Preparation of patient for long-term treatment.
   - Psychotherapy.
   - Benzodiazepine derivative maintenance in selected cases.
   - Referral to other sources of therapy.

The primary care physician should be able to intervene to provide treatment for remission of alcoholism directly and through referral.

1. Primary physician activities:
   - Preparation of patient for long-term therapy.
   - Ongoing review of medical status.
   - Patient management including aggressive followup and coordination of outside services.
   - Utilization of Antabuse.
   - Utilization of antianxiety drugs such as chlordiazepoxide for short-term maintenance.

2. Other sources of therapy:
   Residential community.
   Halfway house.
   AA—(Al-Anon-Alateen).
   Other professional, e.g., psychiatrist, psychologist, social worker.
   Counseling program.
   Mental health services.
   Patient's family.
   Legal coercion.
   Family therapy.

Physician attitudes

To feel more comfortable in the recognition/intervention role the primary care physician should be sensitive to the following factors:
Alcoholism is treatable.
Alcoholism is a health problem.
Alcoholism is a chronic condition with remission and relapses.
The alcoholic can present difficult management problems which engender negative feelings in the physician.
Alcoholism will not be detected without a high level of suspicion on the part of the physician.
The physician's own use of and attitude toward alcohol will affect care of the patient.

METHODOLOGIC CONSIDERATIONS

The following suggestions are prepared to facilitate the accomplishment of the learning objectives and program planning.

Preplanning

1. A local planning committee must be developed to adapt these guidelines to the local situation. Local alcoholism experts should be included in planning.
2. The State/city mental health department and the area alcoholism education and training program (AAETP) should be consulted. These agencies may have specific program materials and/or advice. Financial support may be available. (See table 1 for a list of AAETPs.)
3. The following may be considered for promotion of the program:
   Continuing medical education credit—this is essential.
   "Big names" as contributing participants; check with AAETP.
   Joint sponsorship (e.g., county medical society and family practice association).
   Notice of the meeting in newsletter or other county medical society mailing.
   An early mailing reinforced by a second followup mailing.
   Cost per participant for registration should approximate the going rate in area.

Evaluation

1. Develop a pretest and posttest of knowledge and attitudes.
2. Elicit comments after conference on reaction to presentations.

Learning Materials

The local committee may develop a package of learning materials to include the following:
Local resources—explicit listing for locality.
NCA criteria.[1]
Outline of learning objectives.
Copy of MAST.[2]

[1]Criteria for the Diagnosis of Alcoholism by the Criteria Committee, National Council on Alcoholism, available in *American Journal of Psychiatry*, 129(2):127, August 1972.
[2]Michigan Alcoholism Screening Test (MAST), available in Selzer, M.L. The Michigan Alcoholism Screening Test (MAST): The quest for a new diagnostic instrument. *American Journal of Psychiatry*, 127:1655, 1971; and Selzer, M.L.; Vinokur, A.; and Van Rooijen, L. A self-administered short version of the Michigan Alcoholism Screening Test. *Journal of Studies on Alcohol*, 36:117-126, 1975.

TABLE 1.—*Area alcoholism education and training programs*

Area	States/territories served
WESTERN Dallas Reed, Ph.D. Director 1755 East Plumb Lane Suite 260 Reno, Nev. 89502 702-786-3610	Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, North Dakota, Oregon, South Dakota, Utah, Washington, Wyoming, Pacific Islands/Trust Territories
EASTERN Charles Sapp Director P.O. Box 512 Bloomfield, Conn. 06002 203-243-8326	Connecticut, Delaware, District of Columbia, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Puerto Rico, Rhode Island, Vermont, Virgin Islands, Virginia, West Virginia
SOUTHERN Edward Alderette Director 776-B Juniper Street NE. Atlanta, Ga. 30308 404-875-7196	Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, New Mexico, North Carolina, Oklahoma, South Carolina, Tennessee, Texas
MIDWEST William Butynski, Ph.D. Director 180 North Michigan Avenue Suite 1031 Chicago, Ill. 60601 312-782-0073	Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, Ohio, Wisconsin

Annotated readings—categorically grouped.[3]
Proposed historical questions which could be used in M.D.'s practice. The physician can incorporate questions about alcohol use into the routine medical interview at the same time questions are asked about smoking and using medication.
List of various agencies from whom more information or resources is available:

Alcoholics Anonymous
write to:
General Service Office of Alcoholics Anonymous
Box 459
Grand Central Post Office
New York, N.Y. 10017

Area Alcoholism Education and Training Programs
(See table 1)

Center of Alcohol Studies
Rutgers University
New Brunswick, N.J. 08903

[3]For an annotated list of readings write to George Jackson, M.D., Department of Community Medicine, Mount Sinai School of Medicine, New York, N.Y. 10029. Subjects included are: alcoholism diagnosis; alcohol-related pathologies; attitudes; children of alcoholic parents; dependence and withdrawal; drinking habits—cultural; elderly; history of alcohol use; nutrition and diet; physiology; prevention; social forces; statistics and demography; and youth.

National Clearinghouse for Alcohol Information
P.O. Box 2345
Rockville, Md. 20852

National Council on Alcoholism
733 Third Avenue
New York, N.Y. 10017
(See also local listings)

CONFERENCE PLAN

A suggested plan for a conference of 25 to 50 participants.
Participants seated around tables in small (8 to 10 persons) groups.

DAY 1—MORNING

Welcome by the head of the sponsoring organization.

Introduction: what will be done and how.

Case presentation (part I): Trauma (auto accident—lacerations, semiconscious) brought to hospital emergency room.
Method: audiovisual, written, or oral presentation.
Objective: introduce concept of detection, differentiation of intoxication as traumatic cause of depressed consciousness, need for high level of suspicion.

Small-group discussion: Reaction to case presentation—what should be done to work up and manage the case. Group leader to bring up issues as indicated above.

Case presentation (part II): Trauma case found to have blood alcohol level of 300 mg percent and minor fractures; level of consciousness improves with conservative management. On second or third day in hospital patient becomes severely agitated with increased temperature and hallucinations.

Lecture: Alcohol addiction, tolerance, withdrawal, detoxification.

DAY 1—AFTERNOON

Case presentation (part III): Flashbacks into individual's history, with aspects of problems on job, home, previous DWI, encounters with M.D. in which alcoholism was not detected or acknowledged.
Objective: introduce high-risk factors, signs and symptoms of abuse and addiction, concept of early detection.

Small-group discussion: Reaction to this aspect of case presentation. Group leader to direct discussion to opportunities for detection and early intervention.

Lecture: Methods of early detection and recognition, barriers to these methods. Description of high-risk groups, signs and symptoms of addiction/dependence.

DAY 1—LATE AFTERNOON

Film: Driving when intoxicated.
Objective: drinking's effect on judgment and performance.

Wine and cheese gathering: Breathalizer tests and/or blood alcohol levels (BAL) after alcohol consumption. Correlation of number of drinks over time as it relates to BAL.
Objective: social interchange and opportunity to observe effect of alcohol on BAL.

DAY 2—MORNING

Lecture: Medical complications and pathology of alcoholism.
Case presentation: Original trauma case begins therapy for alcoholism, number of failures, short remissions described with final success at control.

Lecture: Overview of types of therapy for alcoholism.

DAY 2—AFTERNOON

Exhibits: Tables staffed by representatives of local alcoholism treatment organizations with literature, etc.

Panel: Short description of how variety of local treatment agencies would handle therapy of presented case.

Lecture—discussion: Medical/legal aspects—physician as problem drinker.

Conclusion: Short wrap-up, evaluation of course, posttest if used.

5. The Career Teacher Resource Handbook

Charles Buchwald, Ph.D.

Medical education in alcoholism and drug abuse cuts across many disciplines, each with its own extensive literature, special concerns, and jargon. For the most part, these disciplines do not deal with the material relating to substance abuse as an integrated body of knowledge. Equally true, there is no such thing as a coordinated curriculum in drug and alcohol abuse at most medical schools. At some schools there are scattered 1-hour lectures in as many as eight separate departments. At other schools, three or four 15-minute or 20-minute segments of larger lectures substitute for even the scattered hour lectures. There is little question that at most medical schools the curriculum in substance abuse is inadequate.

It was for reasons such as these that the Career Teacher Program in Alcohol and Drug Abuse was established in 1971 to attempt to upgrade the curriculum in medical schools. Committees of career teachers and faculty from the career teacher centers began to meet to discuss such matters as an integrated medical school curriculum. It became apparent to most that the broad range of knowledge required for a comprehensive curriculum necessitated familiarity with an extensive literature, frequently from disciplines other than one's own. If a career teacher was to coordinate an interdisciplinary curriculum in his own medical school, s/he would require a specific reference guide to the drug and alcohol literature of the several medical school disciplines. The career teacher needed a resource that would enable him/her to acquire the relevant knowledge of other disciplines without the time-consuming study needed to become an expert in every field.

Although many career teachers approached their new assignments with the aim of personally teaching all of the alcohol and drug abuse courses at their institution, most became aware that this was not the most desirable approach. Instead, they soon discovered that coordination of substance abuse curriculum within the existing medical school departmental structure was more feasible. Thus, it appeared that a resource guide should also be one that could be shared with teachers of other disciplines.

The Career Teacher Resource Handbook started out as a manual for new career teachers to lead them to the relevant literature of alcohol and drug abuse across all disciplines. In order to maximize the utility of the handbook, the literature cited for each subject area was to include the most comprehensive and up-to-date review articles; classical articles that were the basis of much current knowledge and research; and articles presenting both sides of relevant controversial issues. A description, rather than an abstract, was prepared for each article to encourage the reader to seek out and read the original, not just the abstract.

For the career teacher who wanted more extensive education in a given content area than that obtained merely by reading the selection of articles, a descriptive list of facilities known for specialization in that area was included. This list was comprised of well-known treatment facilities, laboratories, or individual experts who would be worth consulting or visiting for a protracted period of time in order to obtain information in greater depth.

Therefore, the resource handbook was planned for multiple usage. For the career teacher who was not

teaching a particular course, the references would enable him/her to discuss the material knowledgeably with the actual teacher, and help make him/her aware of the latest material pertaining to substance abuse. The teacher could also make use of the listed references as recommended readings for the medical students.

One additional resource that is deemed of value to the career teacher is a list of teaching aids. A third subsection was added to several chapters of the resource handbook listing films, audiotapes and video tapes, slides, etc., relevant to a particular content area. Only material appropriate for medical education is included. Each annotated listing also includes the names and addresses of the suppliers of the material.

If a resource is to be of continuing value, it must reflect the latest scientific and treatment literature. Therefore the resource handbook was designed in a looseleaf format so that sections could be updated relatively easily. The initial plan of an annual revision proved to be too ambitious for such a large undertaking, so the present plans call for a less frequent periodic updating.

An editorial committee of present and former career teachers has been formed to insure the appropriate selection of articles for these revisions. Further plans call for adding an annotated bibliography of the major reference works available in the field to the handbook. An additional list of teaching aids appropriate for professionals other than physicians will also be included in order to increase the usefulness of the handbook.

The editorial committee will also explore the feasibility of coordinating the handbook with the set of curriculum objectives so that it will serve more directly as a curriculum guide. This will primarily involve changing some chapter headings, dividing some sections in two, and collapsing others. In this way, the handbook will serve as a barebones outline for an eventual textbook in substance abuse.

Following are the contents and a sample chapter from the first revision of the resource handbook.

AUTHOR

Charles Buchwald is affiliated with the State University of New York—Downstate Medical Center.

CAREER TEACHER RESOURCE HANDBOOK OF ALCOHOLISM AND DRUG DEPENDENCE

Contents

Sociocultural Factors

Bibliography

1. Bacon, Selden D. The process of addiction to alcohol: social aspects. *Quarterly Journal of Studies on Alcohol*, 34:1-27, 1973.

   A descriptive study dealing with the process of social control and drinking. The developing alcoholic reduces the number and variety of his social activities and drops out of membership in social groups, joining groups more tolerant of his drinking and which exercise less control over him. Recovery involves a resocialization through relearning controls over behavior socially defined as intolerable, and over expected behavior. Prevention can be achieved by insuring that behavior by others reflects disapproval of deviant drinking behavior.

2. Bailey, M.B. Alcoholism and marriage. A review of research and professional literature. *Quarterly Journal of Studies on Alcohol*, 22:81-97, 1961.

   This review has abstracted and summarized the major literature relating to alcoholism and marriage, a field of research which has emerged within the past 15 years. Statistical analysis of marital status has demonstrated that the stereotype of the alcoholic as a marginal undersocialized member of society is no longer tenable. Alcoholics have a high rate of broken marriages, but many are living with their spouses. Case studies of the wives of alcoholics have described the personal pathology of these women and the neurotic interaction between marital partners. The hypothesis that alcoholism is a cumulative stress affecting the family in various patterned ways has also been tested to a limited extent.

3. Barry, H., III. Sociocultural aspects of alcohol addiction. *Research Publication of the Association of Nervous and Mental Diseases*, 46:455-471, 1968.

   The conflict between a striving for independence and a desire for dependence, in addition to insufficient social controls on excessive drinking, common factors suggested in the etiology of alcoholism, are discussed in a review of the literature. Examples are drawn from cross-cultural studies in which it was found that frequency of drunkenness was positively correlated to frequency of ceremonial drinking, especially when alcohol was drunk aboriginally, demonstrating that sacred or ritual use of alcohol does not necessarily result in controlled drinking. Frequency of drunkenness was highest in societies with low childhood pressure toward compliance and in those where independence in adulthood was stressed, supporting the hypothesis of a dependence-independence conflict in alcoholism. Abstinence as a social control of alcoholism is discussed in anthropological and historical perspective. Effective social control in present-day society is necessary. Moderation in drinking, once established in the culture, may alleviate the conflicts and anxieties which motivate excessive drinking. A bibliography of 40 items is included.

4. Beckman, L.J. Women alcoholics: a review of social and psychological studies. *Journal of Studies on Alcohol*, 36:797-824, 1975.

   In a review of social and psychological studies on women alcoholics published in English since 1950, findings on social history variables, personality characteristics, social roles, and sex-role confusion and treatment methods are examined. A bibliography of 109 items is included.

5. Blane, Howard T., and Barry, H. Birth order and alcoholism: A review. *Quarterly Journal of Studies on Alcohol*, 34:837-852, 1973.

   In a wide-ranging cross-cultural survey, the investigators found an overrepresentation of last borns in all family sizes, increasing progressively with larger families. Conflict over dependency has been suggested as a motivational factor which may underlie excessive drinking and which may be overdeveloped in the last born of the family, especially among men.

6. Edwards, P., Harvey, C., and Whitehead, P.C. Wives of alcoholics. *Quarterly Journal of Studies on Alcohol*, 34:112-132, 1973.

   The literature on the wives of alcoholics is reviewed under three headings: the disturbed personality theory, the stress theory, and the psychosocial theory.

7. Linsky, A.S. Theories of behavior and the image of the alcoholic in popular magazines, 1900-1966. *Public Opinion Quarterly*, 34:573-581, 1970-71.

   A comprehensive review of popular magazine articles finding a shift in the perceived factors in alcoholism causation and in the method of dealing with alcoholism. The pattern of changes reflects cultural changes in popular conceptions of man's nature which go far beyond the problems of alcohol.

8. Lowe, G., and Ziglin, A.L. Social class and the treatment of alcoholic patients. *Quarterly Journal of Studies on Alcohol*, 34:173-184, 1973.

   This survey of white male voluntary first admissions (1966-69) to an alcoholism rehabilitation facility found that selection of inpatient care was not related to social class and that there were few social class differences in days of treatment, diagnostic services received, or attendance at therapy groups. The differences between

these and previous findings in other locations are discussed in terms of the differences among the treatment facilities.

9. McClelland, D., Davis, W., and Wanner, E. A cross cultural study of folk-tale content and drinking. *Sociometry*. 29:308-333, 1966.

   A computer correlation of folk-tale content and drinking yielded 14 significant correlations. It is suggested that the psychological state involved is not subsistence anxiety or need for dependence, as previous authors have argued, but a feeling of weakness in the face of heavy demands which leads men to dream of magical potency and seek it by heavy drinking. The degree of structural support supplied by the culture is also discussed in terms of drinking control.

10. Straus, R. Alcohol and society. *Psychiatric Annals*, 3:8-107, 1973.

    A general article discussing the finding of the National Commission on Marihuana and Drug Abuse and other surveys which provide unique insights into drinking patterns and alcohol problems. Labeling and resultant perceptions about alcoholism are discussed, as are leisure time drinking, traffic accidents and alcohol, drinking and alcoholism among youth, and arrest versus rehabilitation of public drunkenness offenders.

Sociocultural Factors

Facilities

1. Addiction Research Foundation
   33 Russell Street
   Toronto, Ontario, Canada M5S2S1

   Robert E. Popham, M.A., Director of Research
   416-595-6164

2. Brown University
   Department of Anthropology
   79 Waterman Street
   Providence, R.I. 02912

   Dwight Heath, Ph.D.
   401-863-3251

3. George Washington University
   Department of Sociology
   Washington, D.C. 20037

   Ira H. Cisin, Ph.D., Professor
   202-331-8706

4. Rutgers University
   Center for Alcohol Studies
   Department of Sociology
   New Brunswick, N.J. 08901

   Selden Bacon, Ph.D., Professor of Sociology
   201-932-2190

5. Southern Illinois University
   Department of Sociology
   Carbondale, Ill. 62901

   Charles R. Snyder, Ph.D., Professor
   618-453-2494

6. University of California, Berkeley
   Social Research Group
   1912 Bonita
   Berkeley, Calif. 94704

   Don Cahalan, Ph.D.
   415-549-1284

7. University of California at Santa Barbara
   Department of Anthropology
   Santa Barbara, Calif. 93106

   William Madsen, Ph.D.
   805-961-2311

8. University of Colorado
   Department of Psychology
   1200 University Avenue
   Boulder, Colo. 80302

   Richard Jessor, Ph.D.
   303-492-0111

9. University of Pittsburgh
   Department of Pharmacology
   School of Pharmacy
   1106 Salk Hall
   Pittsburgh, Pa. 15261

   Herbert Barry III, Ph.D., Professor
   412-624-3274

10. Washington University
    Departments of Psychiatry and Sociology
    St. Louis, Mo. 63130

    David Pittman, Ph.D., Director, Social Science Institute
    314-863-0100

Teaching Aids

1. *Alcohol*
   Film, 1971, 29 minutes, color, sound, 16 mm, Producer USSRS. Title No. 125101.

   An alcoholic, and former bank vice president, describes his experience on skid row and how he found a new life through the Utah rehabilitation program. From the "To Live Again" series.

   Ordering Section — Rental: $12.50
   National Audiovisual Center
   Washington, D.C. 20409 — Sale: $175
   202-763-7420

2. *The Alcoholic Within Us*
   Film, 1973, 23 minutes, color, sound, 16 mm.

   Presents the premise that emotional problems cause excess drinking by portraying emotions as individuals who talk to one another. The origin and ontogeny of alcoholism is thus presented.

   International Tele-Films Enterprises — Rental: $25
   47 Densley Avenue
   Toronto, Ontario M6M 2P5 — Sale: $345
   416-241-4483

3. *Can You Take It?*
   Film, 12½ minutes, color, sound.

   R. Gordon Bell, M.D., noted lecturer on addictions, discusses tolerance to alcohol and how it can vary from person to person. Dr. Bell points out the physical, mental, and social effects of too much alcohol on people whose chemistry is such that they "can't take it."

   Rental
   Association-Sterling Films — Rental: No fee
   866 Third Avenue
   New York, N.Y. 10022
   212-935-4210

Purchase
American Association Against Addiction — Sale: $125
1225 West Market Street
Akron, Ohio 44313

4. *Days of Wine and Roses*
Film, black and white, sound.
A dramatization of alcoholism, showing the etiology and treatment aspects.
Audio-Brandon — Rental: $55
34 Macquestern Parkway
Mount Vernon, N.Y. 10550 — Sale: not available
914-664-5051

5. *Edna: The Inebriate Woman*
Film, 1971, 88 minutes, color, sound, 16 mm.
A realistic portrayal of an indigent's lifestyle. A middle-aged woman is shown seeking shelter, in contact with governmental and private enterprises, in the street and in a psychiatric hospital.
B.B.C. Film Sales — Rental: $100
135 Maitland Street
Toronto, Ontario M4Y 1E5 — Sale: $585
416-925-3891, Telex 06-23577

6. *The First Step*
Film, 1975, 27½ minutes, sound, color, 16 mm.
A realistic drama of a family troubled by alcoholism. The various tensions and alliances within the family are explored. Particularly useful to parent-teenage groups and counselors.
Motivision Ltd. — Rental: $25 for preview, deductible from purchase price.
21 West 46th Street
New York, N.Y. 10036 — Sale: $395 (25 percent discount for nonprofit organization)
212-757-4970

7. *For Those Who Drink*
Film, 37 minutes, black and white, sound.
Extensive lecture film featuring R. Gordon Bell, M.D. Using blackboard diagrams, Dr. Bell deals with the physical, psychological, and social aspects of alcohol addiction. Especially designed for professional workers, doctors, etc., when accompanied by lectures to alcoholics under treatment in a group setting.
United States:
L. L. Cromien & Co. — Rental: $15 1 to 3 days
49 West 46th Street — $3 each additional day
New York, N.Y. 10036
212-582-7873

Canada:
L. L. Cromien & Co. — Sale: $225
5 Beacham Crescent
Agincourt, Ontario
416-491-4575

8. *Sarah T—Portrait of A Teenage Alcoholic*
Film, 1974, 100 minutes, color, sound.
A realistic depiction of a teenager becoming an alcoholic and coming to recognize her alcoholism. Statistics quoted are alarming but questionable.
Universal Studios
100 Universal City Plaza
Universal City, Calif. 91608
213-985-4321

9. *(The) Secret Love of Sandra Blain*
Film, 28 minutes, color, sound.
Dramatically portrays the step-by-step progression into alcoholism of a wife and mother. Shows how ignorance of the symptoms of the disease allows her to deceive her friends, her family, her physician, and herself, until disaster forces her to seek help.
Loan Information
Stanley R. Steenbock, Director
County of Los Angeles Information Services
500 West Temple Street
Los Angeles, Calif. 90012
213-625-3611, extension 64167
Sale
Hollywood Film Enterprises, Inc. — Sale: $150
6060 Sunset Boulevard
Los Angeles, Calif.
213-464-2181

10. *(A) Time for Decision*
Film, 1968, 29 minutes, color, sound.
This documentary, produced for the Los Angeles County Commission on Alcoholism, focuses on one family's search for help. This search leads the wife to visit an alcoholism information center where she learns to recognize the symptoms of alcoholism and to accept her husband's illness. The family learns motivational techniques and varieties of treatment available, finally realizing that they can find guidance, even though the alcoholic may continue to drink.
Loan Information
Stanley R. Steenbock, Director
County of Los Angeles Information Services
500 West Temple Street
Los Angeles, Calif. 90012
213-625-3611, extension 64167
Hollywood Film Enterprises, Inc. — Sale: $150
6060 Sunset Boulevard
Hollywood, Calif. 90028
213-464-2181

Evaluation Techniques

6. Substance Abuse Attitudes: Their Role and Assessment in Medical Education and Treatment

John N. Chappel, M.D.
Ronald S. Krug, Ph.D.

One of the early challenges facing the career teachers was the setting of priorities in educating medical students about alcohol and drug abuse. There was strong agreement that attitudes were more important than knowledge. Many of the career teachers had had repeated experiences with physicians whose knowledge was adequate or who were certainly intelligent enough to acquire the necessary knowledge, but whose attitudes were so negative that they refused to treat alcoholics or drug addicts.

Despite improvements made in many other areas of medical treatment, the care given alcohol- and drug-dependent patients has often been fragmented, set apart from the health care delivery system, and/or of low quality. Among the factors contributing to this situation have been negative attitudes held by physicians toward substance-dependent patients and pessimism about the effectiveness of treatment for such patients.

Chafetz (1) reported that physicians in a teaching hospital avoided the early diagnosis of alcoholism and tended to wait until the patients fit a derelict stereotype. Fisher and associates (2) surveyed the literature and remarked on "the negative quality of physicians' attitudes toward alcoholics and the detrimental effects these feelings can have on a physician's ability and willingness to detect and manage the disease." In studying the effect of medical training on attitudes toward alcoholic patients, Fisher and associates found significant increases in negative attitudes from first-year medical students through house staff in a teaching hospital (2). Even psychiatrists and other physicians in specialized addiction treatment settings have been shown to have more negative attitudes toward alcohol- and drug-dependent patients than have nonmedical staff (3). Pessimism about treatment has been pervasive. Knox (4) found that both psychiatrists and psychologists considered treatment benefits for alcoholic patients to be very limited and were reluctant to participate personally in providing treatment.

Deciding that attitudes were important in educating physicians about alcohol and drug abuse was the easiest part of the task. Attitudes are difficult to define and even more difficult to teach. Our goal was to produce physicians who had positive attitudes toward alcohol- and drug-abusing patients and who were able to form effective treatment relationships with them. We did not know exactly what those attitudes were or how to measure changes in them.

Educational attempts have succeeded in transmitting content about substance abuse, but they have had little success in developing or maintaining positive attitudes. Reynolds and Bice (5) worked with medical interns for 5 months attempting to alter negative attitudes toward chronic patients. They concluded that "despite efforts to change them, these attitudes of the interns appear remarkably stable over the period of time studied."

Bailey (6) offered a course to social workers with the expectation that they would develop greater comfort and confidence in working with alcoholic patients. She found that discussion of various studies during the course improved knowledge, but that greater discomfort with patients developed. Reflecting on similar findings with interns, residents, and attending physicians, Mendelson and associates (7) concluded with reference to continuing education that "educational programs in the area of alcoholism should encompass a range of activities which would help physicians evaluate their personal attitudes toward the alcoholic." The American Medical Association Council on Mental Health (8) recommended that "high priority be given to pedagogical methods which will encourage the [medical] students to sort out their personal experiences and subjective feelings, and attain the goal of professional objectivity."

This paper describes our attempts to understand the problem, to develop a technique for assessing attitudes which are relevant to treatment, and to implement educational activities which would develop more positive attitudes.

HISTORICAL SOURCES OF NEGATIVE ATTITUDES

Myths and stereotypes permeate the attitudes of both patients and physicians. These attitudes interfere with physician-patient involvement on at least three levels. First, patients with drug abuse problems are reluctant to seek medical help. When they do, there is very little revelation of the full details of their drug abuse. Bakewell and Ewing have commented on the number of physicians' wives whose undiagnosed illnesses led to psychiatric referral and the discovery of drug dependence (9). Second, physicians, including psychiatrists, are reluctant to participate personally in the treatment of drug dependence (4). Physicians report that management of alcoholics is difficult, time consuming, and unrewarding, and that drug-dependent patients are unwilling to participate in treatment or to follow advice (10). Finally, hospitals often refuse to admit or treat recognized cases of drug dependence. We have had former heroin addicts currently receiving methadone hydrochloride turned away from hospitals with the statement, "We don't treat junkies."

The widespread use of opium and morphine following the Civil War led to passage of the Harrison Act in 1914. Originally designed to control the distribution and sale of opiates, this law was later used to close medical treatment facilities and to prosecute and imprison physicians who attempted to treat narcotics addicts with opiates. The large prison hospitals at Lexington and Fort Worth were built, and the treatment of narcotics addiction was removed as a responsibility of physicians in practice.

In the meantime, medical societies advised physicians not to attempt to treat narcotics addicts. The use of narcotics in medical schools was often taught in a way that encouraged a phobic response in the young physician. The failure of prohibition to control human drug use did not deter the development of medical views that abstinence was the treatment of choice for drug dependence. Freedman has described the early leaders in psychiatry as "fervent prohibitionists." (11) Unfortunately, this attitude often led to the prohibition of the drug-dependent individual as a medical patient when s/he failed to achieve and maintain an abstinent state.

ATTITUDINAL INFLUENCE ON PATIENT CARE

Although little experimental work has been done, there is an increasing amount of descriptive evidence that physician attitudes have a wide influence on almost all aspects of patient care.

Diagnosis

Diagnosis of drug dependence may be delayed or missed. Chafetz (1) and others have noted that many physicians have a stereotypic picture of the alcohol-dependent patient as a derelict, and they rely on physical symptoms to make their diagnosis. The result is delay until the condition has reached an advanced stage. Reversal of this tendency has been demonstrated in the Department of General Practice, Manchester University, England (12). There, the use of routine questionnaires with all patients at risk of alcohol dependence increased the detection rate of alcoholism by nine times in 1 year.

Access to Health Care

Negative attitudes may exclude chemically dependent patients from the health care provision system, except for those with acute medical problems. Jellinek (13)

argued strongly for the disease concept of alcohol dependence, in part to influence physicians and hospitals to change admission policies that exclude alcoholics. Although official policies have changed, the diagnosis of chemical dependence still selectively influences admission rates. Mayfield and Fowler (14) studied alcoholics and excessive drinkers referred to a Veterans Administration hospital service for treatment. Although there were few differences between the two groups, 17 percent of the alcoholics were admitted on the first assessment as compared with 34 percent of the excessive drinkers. The authors comment that "excessive drinkers are accepted for treatment as often as moderate drinkers. Meanwhile alcoholics are considered uninteresting and untreatable and are seldom and reluctantly accepted for treatment."

Referral

Chafetz et al. (15) studied the effectiveness of referrals by emergency room residents to an alcoholism treatment clinic in the same hospital. They found that "the more anxious a doctor's voice was rated to be, the more successful the referrals he made." They also found a substantial negative correlation between an angry tone in the physician's voice and the effectiveness of his referral.

Treatment

The place of treatment chosen for chemically dependent persons is influenced by physician attitudes. Mendelson and his colleagues (2), studying both house officers and attending physicians at Boston City Hospital, found a definite relationship between authoritarianism and custodial attitudes.

Physician pessimism about treatment outcome has the effect of a self-fulfilling prophecy. Goldstein (16) has shown that therapist expectancies about outcome have a substantial effect on the results of psychotherapy. He recommends that patients be assigned to a psychotherapist whose expectancies are most favorable for that patient.

The patient's expectations also play an important role. Mogar et al. (17) state that the effectiveness of treatment is largely determined by its compatibility with the patients' beliefs and expectations. They believe that the ideal approach to treatment is humanistic, strongly optimistic, and psychologically oriented.

Positive attitudes are not easy to maintain, however, when a physician encounters a patient in an intoxicated state. Frustrating experiences combined with "failure to effect change in a patient's drinking behavior may cause house staff to feel that all alcoholic patients are passive, aimless, and ultimately hopeless" (2). These negative attitudes can then be triggered by the smell of alcohol on a person's breath. Sudnow (18) reports that when a wino is brought into the hospital with no respiration or no pulse, he is likely to be pronounced dead, with no attempt at resuscitation, after a stethoscopic examination shows no heartbeat. A child or an apparently well-to-do businessman with the same outward signs of death is more likely to be the subject of dramatic efforts at resuscitation.

He goes on to state that "the alcoholic patient is treated by hospital physicians . . . as one for whom the concern to treat can properly operate somewhat weakly." Haney (19) believes that the crucial determinant is the physician's assignment of blame or responsibility for the patient's condition. "In general, more perfunctory examination and more apathetic care are the lot of all patients who, according to public opinion, could have avoided their present condition."

Measurement of Attitudes

Accepting the importance of attitudes in determining the quality of care received by substance abusers is only the beginning. How can attitudes be measured so we can assess changes in response to educational experiences? Various attempts have been made. The early efforts of the career teachers involved the use of semantic differential scales using polar opposite adjectives such as good-bad, wise-foolish, and safe-dangerous (2,20). Positive changes in response to educational efforts were obtained.

There were two problems with this method. First, student and physician acceptability was not high. Many refused to apply these "labels" to generalized patient groups such as alcoholics or heroin addicts. Second, although change could be measured in a positive or negative direction we had no idea how relevant the changes were to patient care.

An attempt was then made by career teachers with clinical experience to develop attitudinal statements which they considered functional or dysfunctional in their influence on good medical care for substance abusing patients. Examples of these statements are shown in table 1 (21).

TABLE 1.—*Physician attitudes toward patients and treatment*

Dysfunctional	Functional
Alcohol or drug-dependent patients are the dregs of society.	How can I help alcohol- or drug-dependent patients find a more effective way to live?
Drug or alcohol abuse is a social or legal problem, not a medical one.	Alcohol or drug abuse represents problems I can help treat.
I have little in common with alcoholics or drug addicts.	I share much human experience with addicts, even though we may differ in our behavior.
My only role in treatment is in managing overdose, withdrawal, or medical complications.	Medical treatment is only one of several important supports an alcohol- or drug-dependent patient needs during long-term treatment.
Alcoholics or drug addicts cannot be treated as outpatients. They'll "rip off" me and the community.	Long-term outpatient treatment in a community is necessary if an alcoholic or drug addict is ever to live normally.
Giving an alcohol- or drug-dependent person medication is like treating bourbon addiction with whisky.	There is a big difference between medicine prescribed and controlled by a physician and alcohol or drugs taken as self-medication.
Paraprofessionals are either in competition with physicians or so defensive that the two can never work well together.	Paraprofessionals can be of great help working with physicians, especially in controlling behavior and communicating with alcoholics and drug addicts.

It may soon become evident that, while these statements were useful for discussion purposes, they did not lend themselves to easy measurement. In addition, many of them required a background of experience which most medical students and many physicians did not have.

DEVELOPMENT OF A STANDARDIZED SURVEY OF ATTITUDES

The career teachers then developed a large number of attitudinal statements pertaining to a wide variety of abused drugs including alcohol, usage patterns, patients, and treatment approaches.

An instrument of 153 items was developed. The response options to this questionnaire were a scale from 1 to 5 (strongly disagree [1] to strongly agree [5]).

This STAK (Standardized Test of Attitudes and Knowledge) was administered to 26 career teachers in substance abuse at their quarterly meeting in Portland, Oreg. Each teacher took the questionnaire without any discussion.

After questionnaire administration, the career teachers divided into small groups and discussed items assigned to them. These groups were free to change the content of an item or to rework the wording of an item.

These data were then submitted to a principal axes extraction of factors and a varimax rotation of 10 extracted factors. Of those 10, 5 were meaningful, and the remaining 5 appeared to be residual factors of specific persons. It is well understood that extracting this many factors on so many variables versus so few people is a violation of factor analytic protocol; however, these data were to be used as a way to condense the number of variables into meaningful subcategories and certainly not to examine detailed structure.

Data Reduction

After examination of the 5 factors, the total number of variables was condensed to 106 items with 2 additional variables of "basic sciences" versus "clinician" trained; and, "presently working with substance abusers" or "not presently working with substance

abusers" being added, bringing the total number of variables to 108. These questionnaires were then mailed to the career teachers, and 42 persons returned them. The data were again analyzed to extract factors in the same way as before.

Only those items loading at 0.40 or more on at least one factor were retained. The item pool was thus reduced to 75. This instrument was then given to clinicians around the country who are experienced in treating alcohol- and drug-abusing patients. From this pool a reference group will be selected who have lengthy experience, believe they are successful in providing treatment, and enjoy working with substance-abusing patients. Analysis of the responses of this reference group will be used to further reduce the item pool to 50 items and to develop a scoring system.

At that point we should have an instrument which can be used to measure attitudes in medical students and physicians in a way which is relevant to the attitudinal patterns found in current treatment providers.

EDUCATION FOR ATTITUDINAL CHANGE

Courses which have demonstrated an ability to alter medical students' attitudes have been developed by career teachers. One such course was designed with the long-term goals of increasing interest in and improving the quality of medical and psychiatric care delivered to substance-dependent patients (20). The immediate objective was to positively influence students' attitudes toward substance-abusing patients and their treatment.

The substance abuse course was taught at the end of the block on the CNS in the second half of the sophomore year. It followed instruction in pharmacology and had a heavy clinical emphasis. The course was designed to involve each student in an experiential way with the different aspects of substance abuse. Audiovisual aids, clinical problem solving, and small group discussion were used in almost every part of the course.

Each student was assigned an Alcoholics Anonymous (AA) sponsor who took him or her to an evening AA meeting before the field trips. A syllabus and book of readings, averaging less than five pages per instructional hour, were given to each student. The pretests and posttests included questions on content, substance use, and attitudes.

COURSE RESULTS

A t-test for correlated means indicated that the knowledge of the entire class, as measured by the 50-item pretest and posttest, increased significantly (mean pretest score, 29.43; mean posttest score, 36.22; $p < .01$). Analysis of covariance indicated that personal experience with either alcohol or drugs did not show any effect on knowledge levels before the course was given or influence the acquisition of knowledge during the course.

The students as a whole showed a significant decrease in feeling disgusted or upset at encountering all five types of substance-abusing patients ($p < .05$, t-tests for correlated means).

On the semantic differential scales measuring attitudes toward the five groups of substance-abusing patients, a t-test for correlated means indicated that a significant positive shift took place in the overall attitude toward hard-drug users ($p < .05$).

Attitude changes toward treatment modalities all occurred in the direction of increased optimism. The only treatment category showing no significant change for any substance-abusing category was that of self-help groups, e.g., AA, Synanon, and Weight Watchers. These were rated highest in both the pretest and the posttest. Job counseling showed the greatest shift in rank ordering and was the only modality seen as less important than the physician's role in the pretest but more important in the posttest.

The physician's role in treatment, both generally and personally, was viewed with greater optimism in the posttest for alcohol- and drug-dependent patients. In all cases the class as a whole ranked their personal roles as more important than other physicians' roles in both pretest and posttest. The rank ordering of treatment modalities, when combined for all five areas of substance abuse (with the exception of job counseling), was the same in the pretest and posttest and was as follows: (1) self-help groups, (2) family involvement, (3) counseling (psychotherapy), (4) my personal role as a physician, (5)

the role of the physician, (6) drug substitute or antagonist (chemotherapy), and (7) institutional treatment.

Student evaluations of the substance abuse course were highly positive in comparison with their evaluations of other courses they had taken. They also rated their medical school experience as having a more important role ($p < .01$, r-test for correlated data) in the attitudes expressed on the posttest as compared with the pretest.

The highest rating was given to the visit to an AA meeting and the field trips to treatment programs. These visits provided direct contact with people in helping settings. The second highest ratings were given equally to the sessions on management of overdose and withdrawal and the review session. Both of these experiences had a heavy clinical emphasis, the first dealing with a series of clinical problems the students worked on in small groups, and the second providing direct contact with a physician who had extensive clinical experience with substance-abusing patients.

Evaluations obtained from the students give some clues as to those parts of the course which may have been most effective in influencing their attitudes. Altrocchi and Eisdorfer (22) reported a similar positive impact of clinical experience on attitudes toward mental health. In the area of substance abuse, the course described in this paper may have replicated in a medical school setting the experience of Mogar and associates (17). They found that clinical experience with alcoholic patients resulted in significantly less pessimism in psychiatrists and other physicians about the effectiveness of treatment.

The increased optimism about treatment shown at the posttest by our students is quite important in potentially influencing the effectiveness of treatment [illegible] by these students in the future. Goldstein's (16) recommendation that patients be assigned to therapists whose expectations are most favorable for the patients is relevant in this context. The converse is that many substance-dependent patients live up to the negative expectations of the people, frequently physicians, who are trying to help them. Mogar (17) made the point that "treatment outcome with the alcoholic patient is a function of staff attitudes, patient attitudes, and, perhaps most importantly, the degree of congruence between them."

CONCLUSION

The physician is a key person in the treatment of alcohol or drug abusing patients. Whether in private practice, serving as a consultant, or working full time in a treatment program his/her attitudes will be influential in determining the quality of care delivered.

S/he is obviously needed to provide the chemotherapeutic aspects of treatment. Of particular value is the physician's clinical judgment when the team makes decisions that may involve some element of risk for the clinic member. In addition, the physician provides important support and education for both the nurses and counselors who are often under great stress from clinic members.

Relatively few physicians will choose to become directly involved in the treatment of drug dependence. An equally important role remains for the physician in practice. S/he may have the first opportunity to make an early diagnosis and refer the drug-dependent person for management. Preparation of the patient, communication of hope, and the provision of emotional and chemotherapeutic support may be critical in getting the patient into a treatment program. Physicians will continue to be called on to manage drug overdoses, severe drug withdrawal, and drug-related emergencies. Drug-dependent individuals will continue to get pregnant, have accidents, and suffer from any of the human race's illnesses.

Changes in attitude are necessary at both physician and institutional levels if drug dependence is to be adequately treated. Such a change in attitude is possible. The history of mental illness shows a gradual shift from medieval rejection and punishment to increasingly effective treatment which is more and more being incorporated into the mainstream of medical care.

Each of us must be aware of our own attitudes before we can change them. The Standardized Test of Attitudes and Knowledge can be used to develop that awareness. The test, which is presented at the end of this chapter, will have many uses in undergraduate, postgraduate, and continuing medical education. It is our hope that it will contribute in a measurable way to improved treatment of substance abusing patients.

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STANDARDIZED TEST OF ATTITUDES AND KNOWLEDGE III (STAK)

Attitudinal Statements

Instructions:

Please answer each item by indicating your degree of agreement or disagreement using the following format:

D	d	u	a	A
Strongly disagree	**Disagree**	**Uncertain**	**Agree**	**Strongly agree**

Please circle only one answer for each item and complete all items. Remember that your answer should reflect your attitude and not whether you think the statement is factually correct.

D d u a A 1. Alcohol is an effective social relaxant.
D d u a A 2. Marijuana use leads to mental illness.
D d u a A 3. All heroin use leads to addiction.
D d u a A 4. Alcohol use is all right if it is not excessive.

D	d	u	a	A
Strongly disagree	Disagree	Uncertain	Agree	Strongly agree

D d u a A 5. Alcohol is a food, not a drug.
D d u a A 6. Stimulant use leads to mental deterioration.
D d u a A 7. Sedatives are more frequently abused drugs than narcotics.
D d u a A 8. Marijuana should be legalized.
D d u a A 9. People should realize that the caffeine in coffee and beverages is a drug.
D d u a A 10. Using any hard drug shortens one's lifespan.
D d u a A 11. Any drug can be safely used by a person who is mentally healthy.
D d u a A 12. Alcohol is so dangerous that it could destroy the youth of our country if it wasn't controlled by law.
D d u a A 13. Heroin is so addicting that no one can really recover once s/he becomes an addict.
D d u a A 14. Alcoholism is familial in origin.
D d u a A 15. Almost anyone would turn to drugs if her/her problems were great enough.
D d u a A 16. Smoking leads to marijuana use, which in turn leads to hard drugs.
D d u a A 17. Street pushers are the initial source of drugs for young people.
D d u a A 18. Children learn about drug use from their parents' behavior.
D d u a A 19. Alcoholism is a learned disorder.
D d u a A 20. A disproportionately high number of addicts are born to mothers on welfare.
D d u a A 21. Physicians are an important source of drugs for most users.
D d u a A 22. Drug abuse is a character disorder.
D d u a A 23. Being raised in a slum leads to drug abuse.
D d u a A 24. Daily use of one marijuana cigarette is not necessarily harmful.
D d u a A 25. Clergymen should not drink in public.
D d u a A 26. Physicians should not smoke tobacco in public.
D d u a A 27. Tobacco should not be smoked in the rooms where nonsmokers are present.
D d u a A 28. People should only get drunk at home.
D d u a A 29. People who use marijuana usually do not respect authority.
D d u a A 30. People who use psychedelic drugs have emotional problems.
D d u a A 31. A physician who has been addicted to narcotics should not be allowed to practice medicine again.
D d u a A 32. The laws governing the use of marijuana and heroin should be the same.
D d u a A 33. Weekend users of drugs will progress to drug abuse.
D d u a A 34. Tobacco smoking should be allowed in high schools.
D d u a A 35. Personal use of drugs should be legal in the confines of one's own home.
D d u a A 36. An individual who does not engage in the social use of drugs is a bore.
D d u a A 37. Teachers and other role models for young people should not use alcohol and other drugs in public.
D d u a A 38. Anybody who is clean shaved and has short hair probably doesn't use illegal drugs.
D d u a A 39. Recreational drug use precedes drug abuse.
D d u a A 40. The majority of alcoholics can recover with treatment.
D d u a A 41. People who dress in hippie-style clothing usually use psychedelic drugs.
D d u a A 42. People who use drugs are sexually promiscuous.
D d u a A 43. It is normal for a teenager to experiment with drugs.
D d u a A 44. Marijuana use among teenagers can be healthy experimentation.
D d u a A 45. Lifelong abstinence is a necessary goal in the treatment of alcoholism.
D d u a A 46. A hospital is the best place to treat an alcoholic or drug addict.
D d u a A 47. Once a person becomes drug-free through treatment s/he can never become a social user.
D d u a A 48. Alcoholism is associated with a weak will.
D d u a A 49. Drug addiction is a treatable illness.
D d u a A 50. Persons convicted of sale of illicit drugs should not be eligible for parole.
D d u a A 51. Paraprofessional counselors can provide effective treatment for alcohol or drug abusers.
D d u a A 52. Methadone is a very useful treatment for heroin addiction.
D d u a A 53. Urine drug screening is an important part of drug abuse treatment.
D d u a A 54. Antabuse is a very useful treatment of alcoholism.
D d u a A 55. Group therapy is very important in the treatment of alcoholism or drug addiction.
D d u a A 56. Long-term outpatient treatment is necessary for the treatment of drug addiction.
D d u a A 57. Angry confrontation is necessary in the treatment of alcoholics or drug addicts.
D d u a A 58. Family involvement is a very important part of the treatment of alcoholism or drug addiction.
D d u a A 59. Alcoholism is a treatable illness.
D d u a A 60. Chronic alcoholics who refuse treatment should be legally committed to long-term treatment.
D d u a A 61. AA is a very useful treatment for alcoholism.

D	d	u	a	A
Strongly disagree	Disagree	Uncertain	Agree	Strongly agree

D d u a A 62. Mentally healthy doctors will have nothing to do with alcohol- and drug-dependent persons.
D d u a A 63. Physicians who diagnose alcoholism early improve the chance of treatment success.
D d u a A 64. Most alcohol- and drug-dependent persons are unpleasant to work with as patients.
D d u a A 65. There is probably some hereditary factor that causes people to become addicts.
D d u a A 66. An alcohol- or drug-dependent person cannot be helped until s/he has hit "rock bottom."
D d u a A 67. An alcohol- or drug-dependent person who has relapsed several times probably cannot be treated.
D d u a A 68. There is an addictive personality.
D d u a A 69. A physician who treats alcohol- or drug-dependent patients will lose many of his/her other patients.
D d u a A 70. Alcohol and drug abusers should be treated only by specialists in that field.
D d u a A 71. The best way for a physician to treat alcohol- or drug-dependent patients is to refer that patient to a good treatment program.
D d u a A 72. Once an alcohol- or drug-dependent patient is abstinent and off all medication, no further contact with a physician is necessary.
D d u a A 73. Before an alcoholic is able to stop drinking s/he needs to gain some insight into the reasons for his/her drinking.
D d u a A 74. Parents should teach their children how to use alcohol.
D d u a A 75. Regular, heavy drinking is not a problem for those who can hold their liquor.

7. Evaluation of Knowledge in Substance Abuse

History of the Task Force on Evaluation

Alex Pokorny, M.D.

When Dr. John Griffin was appointed a career teacher, he already had an active interest in physician evaluation. For example, he had contributed a chapter on the structured oral examination for the volume, *Evaluation Methods in Psychiatric Education,* edited by Muslin, Thurnblad, Templeton, and McGuire, and published by the American Psychiatric Association in 1974. Dr. Griffin had also spent time in the Research in Medical Education Unit at the University of Illinois and had been an active member of the Written Test Sub-Committee of the Child Psychiatry Section of the American Board of Psychiatry and Neurology.

As a career teacher, Dr. Griffin came for a period to the Baylor Career Teacher Training Center in July 1974. At that time he indicated that one of his objectives was the drafting of approximately 500 questions in the area of drug abuse and alcoholism, and he devoted a significant part of his stay at Baylor to this effort, using part of his time with each instructor to formulate questions on that topic. Dr. Griffin then began talking with other career teachers about helping him to field test these questions.

After the career teacher program had been underway for over a year, the National Institute on Drug Abuse appointed a task force to look more broadly at the entire field of physician education and allied health education in the area of substance abuse. There was therefore set up a NIDA Task Force on Physician and Allied Health Education Objectives, which had its preliminary meeting in Rockville, Md., in January 1975, and had its first formal meeting in Houston on February 13, 1975. In a series of meetings, this task force adopted a list of eight objectives in the area of physician education. These were then assigned to specific individuals, agencies, or committees. Objective III was stated as "Secure Inclusion on National and Specialty Board Exams of Questions on Alcohol and Drug Abuse. "This objective was assigned to a task force chaired by Dr. Griffin, and initially Dr. Richard Phillipson and Dr. Alyce Gullattee were to assist him. Later a task force was created including those three members plus Dr. Alex Pokorny, codirector of the Baylor Career Teacher Training Center, and career teachers Kenneth Russell, Ronald Krug, and Kim Keeley. The task force had 12 meetings from 1975 to 1977.

During the first year, the committee worked almost exclusively on the development of a pool of questions on substance abuse for use by career teachers. The committee started with Dr. Griffin's considerable pool of items. Each task force member then submitted about 30 additional items which led to an initial pool of over 300 items. Individual career teachers who were not members of the task force also provided some items. During this year the committee worked on individual items during meetings and also between meetings. During this period task force members learned a great deal about question-writing techniques and approaches to evaluation.

Since one of the original goals was to increase the number of questions on drug and alcohol abuse in the national board and specialty board examinations, the task force set up some discussions with the National Board of Medical Examiners. The eventual result of this was that the task force submitted 25 of its best questions to the secure-item pool of the national board and also set aside 25 other high quality

questions for submission 1 year later to this pool. Since the mechanism by which the national board selects questions involves choices of a series of disciplinary test committees, it is not possible to mandate or specify how many items will be asked per disorder or technique. However, the presence of high quality items in the pool should facilitate the better representation of alcohol and drug abuse in examinations in the future.

The task force then selected approximately 201 items for inclusion in a lengthy examination which was field tested with the group of career teachers at the Portland, Oreg., meeting in 1976.

The Baylor Career Teacher Training Center has gradually taken on the role of supporting and coordinating the examination processing. The plan is that the center will offer to grade examinations and also receive copies of results of examinations so that this further experience with each item can be added to the information available on each item in the question pool.

An important new development with respect to this task force was the beginning of discussions with the National Board of Medical Examiners, initially about adding items to their question pool. At this time, the national board was making plans for development of a comprehensive qualifying examination, to be given to physicians after or near completion of medical school as a requirement to beginning graduate medical education (internship or residency). It occurred to the representatives of the National Board of Medical Examiners and the NIDA task force that this might be an excellent spot for collaboration, and after several planning discussions such an agreement was entered into. The national board submitted a grant proposal which was funded by NIDA, and the evaluation task force also became a research project examination committee or task force of the National Board of Medical Examiners to develop a proportion of the comprehensive qualifying examination. During the past year this has become the principal activity of this evaluation task force. Because of the felt need to broaden the expertise and competence of this committee, Dr. Kenneth Williams, an internist and career teacher from Pittsburgh, and Dr. Sidney Cohen, a pharmacologist and an established authority in the field of drug abuse, have been added as members (see listing). The work with the National Board of Medical Examiners has involved a prominent shift to writing of patient management problems and of multiple choice questions around particular themes and case histories.

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Development of a Grid for Examination in Substance Abuse

Alex Pokorny, M.D.

One of the prime considerations in the development of an examination is to make it proportionately representative; that is, the number of questions asked on a topic should be approximately proportional to the importance and teaching time allocated to the topic. If a topic could be subdivided along only one dimension, then it would be simple to allocate the questions in the same proportion. If a topic needs to be divided in two dimensions, then one needs to construct a "grid" or two-dimensional table with corresponding cells. If there were three dimensions which were important to consider, then one would need to construct a three-dimensional solid figure. In our task force, we decided that one important dimension would be substances of interest such as opioids, stimulants, hallucinogens, and alcohol.

It was decided that a second major dimension would be subject areas such as psychological aspects, pharmacology, clinical diagnosis, treatment and rehabilitation, and prevention. Eventually the committee decided to have 10 groupings for each of these 2 dimensions. These are shown in table 1, with the subject areas listed down the left-hand side of the page. After some initial experimentation with such a grid, it was decided that there was a need for a substance column called "multiple drug comparisons," because a great many questions involved two or more of the substances and comparisons between them. Such questions could not accurately be classified in only one column. Similarly, the subject area required a category called "miscellaneous and multiple subject comparisons" for these same general reasons.

The task force also set up a third dimension, and each item was classified into whether it represented information, skills, or attitudes. After a meeting or two it became clear that virtually all of our original questions fell into the information category, and therefore this classification was not stressed as much later (although some of this same attempt to test skills and attitudes reappeared later in classifications used in the National Board of Medical Examiners activity).

The initial questions submitted by the task force turned out to be quite irregularly distributed over the two-dimensional grid. Such a lopsided distribution is not desirable in an examination. On the other hand, it is also undesirable to strive for a perfectly even distribution on grounds that some categories are simply more important than others. For example, questions on alcohol should certainly be more frequent than questions on cannabinoids or volatiles. Similarly, questions in the areas of pharmacology, clinical diagnosis, and treatment should be more frequent than historical or legal aspects.

The question therefore arose: What percentage of questions should be asked regarding each cell of the grid? Drs. Griffin and Pokorny therefore arbitrarily chose percentages on an a priori, "expert judgment" basis and adopted the percentages shown at the tops of the columns of table 1.

Next, for each substance column separately, they decided what percentage of the questions should be allocated to each of the 10 subject areas, and these final choices, expressed as percentages, are shown as the upper figure of each cell of table 1. These percentages add up to 100 percent in each column.

When these two sets of percentages were multiplied, it yielded the figures shown at the lower half of each cell in table 1. These lower figures in each cell add up to 100 percent counting the entire table, and therefore represent what percentage of the total examination should be devoted to that cell. As can be seen, some of these percentages are quite small, less than 1 percent, which makes it obvious that not every cell can have a question if an examination is of usual length.

Table 2 brings out how the distributions arrived at in table 1 were translated into a 150-question examination. The numbers in the cells are the numbers of questions. The reader should see table 1 for the names of the categories.

A general conclusion from this is that there may be a need to collapse categories. On the other hand, it is likely that one does not have to ask about every topic in every examination, and all that one needs to be concerned with is that there is a fairly even distribution.

Furthermore, it may not even be possible to generate items for each and every cell, since in some instances a combination is logically implausible, or not much is known in that area.

TABLE 1.—*Arbitrary, a priori allocation of examination to columns and cells of the grid (Griffin and Pokorny, Jan. 13, 1976)*

	20% 0	7% 1	8% 2	5% 3	5% 4	5% 5	2% 6	30% 7	15% 8	3% 9
	Opioids	Stimulants	Hypnotics and sedatives	Minor tranquilizers	Hallucinogens	Cannabinoids	Volatiles	Alcohol	Multiple drug comparisons	Miscellaneous
(a) Sociocultural	10	10	10	10	15	20	20	10	10	10
10.95	2.00	0.70	0.80	0.50	0.75	1.00	0.40	3.00	1.50	0.30
(b) Pathology	5	2	2	2	2	10	5	8	0	10
4.80	1.00	0.14	0.16	0.10	0.10	0.50	0.10	2.40	0.00	0.30
(c) Psychological aspects	5	10	8	8	13	5	10	4	5	10
6.09	1.00	0.70	0.64	0.40	0.65	0.25	0.20	1.20	0.75	0.30
(d) Research and theory	5.	5.	2	2	10	15	5	5	0	15
4.91	1.00	0.35	0.16	0.10	0.50	0.75	0.10	1.50	0.00	0.45
(e) Historial, legal, ethical	5	3	3	3	3	10	5	3	5	5
4.15	1.00	0.21	0.24	0.15	0.15	0.50	0.10	0.90	0.75	0.15
(f) Pharmacology	20	20	10	10	17	10	20	15	40	15
19.40	4.00	1.40	0.80	0.50	0.85	0.50	0.40	4.50	6.00	0.45
(g) Clinical diagnosis	20	20	25	25	17	10	10	20	20	5
19.35	4.00	1.40	2.00	1.25	0.85	0.50	0.20	6.00	3.00	0.15
(h) Treatment and rehabilitation	20	20	25	25	13	10	15	20	15	20
18.95	4.00	1.40	2.00	1.25	0.65	0.50	0.30	6.00	2.25	0.60
(i) Prevention	5	5	10	10	5	5	5	10	0.	5
6.40	1.00	0.35	0.80	0.50	0.25	0.25	0.10	3.00	0.00	0.15
(j) Miscellaneous and multiple subject comparisons	5	5	5	5	5	5	5	5	5	5
5.00	1.00	0.35	0.40	0.25	0.25	0.25	0.10	1.50	0.75	0.15
100.00	20.00	7.00	8.00	5.00	5.00	5.00	2.00	30.00	15.00	3.00

(1) The percentages in the row across the top add up to 100 percent; these are percentages allotted to each substance group.
(2) The upper figures within each cell are percentages of that column; each column adds up to 100 percent: these are the percentages allotted to each subject area (a, b, c, etc.) for that substance.
(3) The lower figures within each cell represent percentages of the whole table; the lower figures in the entire table add up to 100 percent.

TABLE 2.—*How distributions arrived at in table 1 would translate into a 150-question examination*
[*The numbers in the cells are numbers of questions*]

	0	1	2	3	4	5	6	7	8	9	Total
a	3	1	1	1	1	2	1	5	2	0	17
b	2	0	0	0	0	1	0	4	0	1	8
c	1	1	1	1	1	0	0	2	1	0	8
d	2	1	0	0	1	1	0	2	0	1	8
e	1	0	0	0	0	1	0	1	1	0	4
f	6	2	1	1	2	1	1	7	9	1	31
g	6	2	3	2	1	1	0	9	5	0	29
h	6	2	3	2	1	1	1	9	3	1	29
i	2	1	1	1	1	0	0	4	0	0	10
j	1	1	1	0	0	0	0	2	1	0	6
Total	30	11	11	8	8	8	3	45	22	4	150

TABLE 3.—*Psychological factors in substance abuse*

	Knows basic terms	Understands concept and principles	Applies principles
Drugs as stress coping mechanisms can affect various phases of the individual life cycle.			
The concepts of self-medication of emotional behavioral pathological symptoms, e.g., sleep disturbance, depression, anxiety states, psychotic disorders, and personality disorders through substance abuse.			
Substance abuse as a form of coping and adaptational skill development.			
Psychodynamic theories (e.g., drive and anxiety reduction) and the phenomenon of substance abuse.			
The concept of the addictive personality and the controversy surrounding it.			
The concept of substance abuse as a symptom of an underlying emotional disorder.			
The concepts of suicide, self-destructive behavior, and substance abuse.			
Nonpharmacologic factors (e.g., set, setting, and placebo) as contributing to the occurrence of an acute toxic (both positive and negative toxicity) drug response.			
The role of denial as a defense mechanism in the substance abuser.			

Guidelines for Question Construction

Ronald S. Krug, Ph.D.

The following commentary is a synopsis of general directions for constructing questions on given material over which students will be examined. The focus of this discussion will be directed toward objective examinations such as multiple choice questions, matching, and multiple true/false items. The presentation will be organized around seven steps as follows:

- Organizational focus of item writing
- Specifications building
- Initial item writing process
- Review process for items
- Field test of items
- Final editing
- Analysis of performance

Organizational Focus of Item Writing

Before one begins to write questions, the purpose for which the items are to be used should be clearly specified. That is, are items to be written for certification that the individual is basically competent; are items oriented toward some external criterion (e.g., behavioral objectives); are items to ascertain a minimum performance level; or are items to assess general mastery of a given content area for a given group of students? Any one focus may summarily exclude writing items for another purpose. For instance, if a minimum performance level of each student is to be ascertained, then it is clear that a certain percent of a group of items dealing with core issues must be answered correctly. However, if one simply wishes to ascertain how well a group of students was taught given content material, then the items should be written to equally represent all subsections of the teaching area.

Specifications Building

In order to insure the representative nature of items to the material presented, a two-dimensional content grid should be prepared. The reader is referred to an example of the content grid in table 3. The vertical items outline the subsections of the material presented by content areas. The horizontal items represent three general areas: the first being knowledge of basic terms and concepts; the second, understanding the concepts and principles; and third, appropriate application of the principles and terms. It should be noted that some authors include attitude assessment as an additional column of the horizontal dimension; however, attitude assessment is a separate area unto itself and always raises the specific problem, "What is the correct attitude?"

With regard to the vertical items dealing with content, the total test content (and therefore items built on content) should reinforce why an item is included. That is, do the test items focus on critical points that all students should master? Should it be mandatory that the student pass the item? Is the content and test item less essential to certification or minimum performance level? Is the item simply a "filler" to bring the total item count to a given number?

Initial Item Writing Process

There are essentially three basic item types following national boards format which are used for question construction. These are one best answer, multiple true/false, and matching. While other formats are used (for example, simple true/false questions), these three item types appear to have the best validity and reliability over time.

In general, all questions should have five alternatives from which the student must select the one "best" response. With five good alternatives, the probability of getting the correct answer by guessing is reduced to 20 percent (one out of five).

The one-best-answer type of question sets forth an incomplete statement or a question which can be answered by one of five alternatives which follow it. Usually in writing instructions for the one best answer (particularly in those disciplines where different approaches or answers may be correct, but one action or answer is the best) the instructions for answering those items indicate that perhaps none of the five responses are clearly incorrect; however, the student's task is to select the one which is most correct.

The multiple true/false format has the advantage of examining the student's knowledge about multiple aspects of a particular phenomenon through the use of one question. Typically there is a question or incomplete sentence which is followed by four possible responses (a, b, c, and d). The student must read all responses and decide which of them are true statements and which are false. Then by using a particular code s/he indicates which items s/he considers correct. S/he selects the number 1 if responses a, b, and c are correct; 2 if a and c are correct; 3 if b and d are correct; 4 if only d is correct; and 5 if all are correct. It should be noted that it is inappropriate to use the format "all of the following are true *except*" in the multiple true/false format because it implies a double negative and seriously confuses the student.

The third format is the matching format. Typically an index list of items (no more than five) is given in one column and then questions are asked about data which can be answered by selecting one of the five possible responses. The instructions should read, "Each of the following items may be used once, more than once, or not at all"; and, in fact that should be the case.

Review Process for Items

After items have been written to cover a given content grid, there are consecutive steps through which one must go in order to insure the item is a "good" item.

Between the initial item writing and the first review by the writer, a time interval should elapse so the reviewer can gain distance from the item itself. This time interval leads to increased objectivity about the value of the item. Secondly, with a time interval, particularly for one-best-answer types, the item may be rewritten from a complete-statement question to an incomplete-statement question, which is usually clearer.

Peer review is important after the initial item writing. If a colleague can review your items s/he can frequently detect obvious problems in questions with which you are ego-invested and have not seen a complication. Also, a colleague may be able to more clearly ascertain whether meaningful data are being examined or whether the correct answer to the item hinges on trivial aspects. Most importantly, a colleague can frequently help you understand whether you are asking what you intended to ask.

After the author's review and hopefully a peer review, the items are assembled in one test. The test as a whole needs to be reviewed to ascertain that the stem of one question does not supply the answer to another question. Likewise it is important that an incorrect response to one question does not force the student to select an incorrect response on a subsequent question.

To circumvent the problem of a student getting an answer correct simply because the student knows your particular pattern of placing the correct answer in a given position (e.g., correct answer always in the a or b alternative), a review of the test as a whole should determine whether there is a tendency for the test writer to select the first alternative as the correct response more frequently than s/he does the fifth. Assigning the position of correct alternatives by a random number table is good insurance against this common tendency.

If one incorporates matching items into a test and the list of questions which are to be matched with the five index items is lengthy, it helps to alphabetize the matching list so the student does not waste time hunting for a particular item or losing his/her place on the test booklet.

Perhaps the most important portion of the review process for items is to review all items to ascertain that the alternatives are plausible. A common error that item writers make is to use the alternative "all of the above/none of the above." These alternatives are appropriate if they are plausible; however, if that alternative is simply a filler, then it is better to have four plausible alternatives than to insert the filler simply to bring the number of choices to a total of five. Next, many item writers (even experienced writers) will insert into one of the alternatives the words "all," "none," "always," or "never." Usually, if any of these words occur in the stem or in the alternatives, the student who is test wise will reject that alternative because few things in the world always occur or never occur. Another common problem in test writing which occurs for all item writers is to "unconsciously" make a verbal association between the stem and correct foil. That verbal association may be in terms of the tense of a verb, an identical word, or other keys to associating between the stem and the correct alternative. Lastly, in the

one best alternative type question one should avoid the use of opposite alternative since this really increases the probability that the student can get the response simply by guessing.

Grammatical consistency is a mandatory aspect of item writing. All alternatives for a given question must be of equal length. Item authors frequently either become ego-involved with the correct statement, leading to its being longer or selectively shorter than the incorrect alternatives. There is also the reality that truth is more complex than fiction, resulting in correct alternatives frequently being longer than other alternatives. The test-wise student knows this particular fault in test-item writers, and if they have no other data on which to base their responses they can frequently gain scores they don't deserve by selecting that alternative which is uniquely shorter or longer than the others. Next, the alternatives must be consistent with the stem. That is, they must all be plurals, the same tense, and parallel forms (e.g., all doses given in milligrams or cubic centimeters). Further, in terms of consistency, one should always use the proper names or the common names in the alternatives, but not mix them; one should not mix subject material such as names, dates, and definitions (in other words use homogeneous sets); and one should use the similar wording in each of the alternatives. Regarding the last point, the test-wise student knows that if, for instance, four drugs are given by their trade name, but the fifth is given by the generic name, it is more likely that the generic name is the correct response rather than any of the four trade names. The last item under grammatical consistency to which the item writer must attend is the appearance of negatives in either the stem or the alternatives. Double negatives either within an alternative or implied between the stem and an alternative should be avoided since negative thinking is more complex than positive thinking. And as a related point, if in the stem the terms "except," "none," or "not" are to be used, it is important to underline and capitalize all of these since most test takers tend to select the one best, *not* the one which is most incorrect.

The final point under the review process for items is to reword items to comply with common rules for writing test questions. These include: not using textbook or lecture quotes, the use of facts, not opinions (if it is an opinion or controversial, label the source); no sweeping generalizations ("in the general case"); no guarded statements (maybe, frequently); no relative words ("significant," "commonly"); only one idea per statement since one part of the statement may be correct and the other incorrect; a test for main points and not trivia (particularly where a single insignificant word is the key to the correct answer); the alternatives as short as possible; and, most importantly, the removal of all irrelevant statements and words from the questions.

Field Test of Items

After a test has been assembled, it is important to have some type of peer review (colleagues, research assistant, student test committee, a previous testing) to insure that everyone—and particularly the experts—agrees on the correct answer. In many disciplines in the field of medicine, there is controversy over what is the most correct procedure, and at least a large percentage of experts need to agree that a particular alternative is the best answer. Next, the directions for the test need to be clear. Do not hesitate to make directions as specific as possible so as to not leave anything to the student's conjecture. An examination of the student's knowledge and skills is not the appropriate place for projective testing. A local field test also will circumvent the problem of the miskeying of an item. Nothing is more frustrating to students than to spend a great deal of time answering an item and then finding that on their feedback they have missed that item when in fact they got it correct. Frequently they can intellectually excuse such a mistake, but emotionally they are set up to challenge all further tests. Field testing also helps to establish the amount of time required to complete the examination. Typically one should allow between 45 and 90 seconds per item. Most test constructors do not wish to make their tests a test of speed, but rather a test of knowledge acquisition and skill.

Final Editing

One should review the test in the light of all of the above steps to correct difficulties from the peer review, the local field test, or from previous administration of the examination. Additionally, in the final editing the length of the test can be varied if it

is found that more time is necessary to complete the entire examination than was initially estimated.

Analysis of Performance

After the test has been administered to a group of students for the first time, it is important to look at the analysis for each item to ascertain if it has performed as was predicted or expected. That is, each alternative for each item should be analyzed to obtain the percent of students who responded to each alternative. This assists in examination of teaching effectiveness as well as design of your test. The following are some common distributions of item performance and possible interpretations.

If 99 percent of examinees select one particular alternative and 1 percent select another alternative with none selecting the other three, then in fact the question might be a good minimum performance level item, in that it is something that all students appear to be able to accomplish; however, it is a useless item to discriminate between students' relative levels of performance. It may be also a very simple question that anyone could answer using "common sense." Check the item out for possible "giveaways" in the other alternatives.

If 50 percent of the students select one alternative and 50 percent select a second alternative, but again none of the students select any of the other three, then most likely the two alternatives selected at the 50-percent rate may represent controversial stances on the item, or something about the item style of writing may have confused students.

If 25 percent selected the correct answer and 75 percent selected another alternative with none selecting the other three, then probably either a teaching failure has occurred or perhaps there was incorrect keying of the item. Reevaluate the item before using it again.

If the distribution is: 55 percent of the students get the correct answer, 25 percent get a second alternative, 15 percent get another alternative, 3 percent get another alternative, and 2 percent get the last alternative, this and similar items, if used in a collective test, will generate a normal distribution in the overall performance of a group of students. Such item performance allows for maximum discrimination between differential performance levels of the persons taking the examination.

If all five alternatives are selected by an equal percentage of students (that is, 20 percent, 20 percent, 20 percent, 20 percent, 20 percent) then obviously there is a failure in teaching or item construction such that students are guessing as to what the correct answer is. The item needs either to be deleted or rewritten to get around the difficulties being experienced by the students in responding to the question.

National Board Project — David Smith, M.D.

The task force on evaluation of the National Institute on Drug Abuse proposed a collaborative project with the National Board of Medical Examiners in the fall of 1975. The national board, in response to a generally perceived need for medical graduates to demonstrate their preparedness to assume responsibility for patient care under supervision as they enter graduate medical education, had begun development of an appropriate comprehensive qualifying examination. It was readily recognizable that the goal of the task force to develop an evaluative program for their area of curricular interest coin-

cided with a significant segment of the program of the national board. The two groups joined their interests and obtained support from the National Institute on Drug Abuse for a project that began in the summer of 1976.

A proposed model for a prototype comprehensive qualifying examination had been previously evolved by an advisory committee that had formulated objectives and reviewed various studies of competency criteria. A compilation of such criteria had been developed and a concept and strategy for the test design proposed. The latter emphasized evaluation on behavioral roles more than the customary emphasis on knowledge of subject content.

A prototype examination was envisioned as being composed of several modules built around different principal problem situations in medical science. Quite obviously, the area of drug and alcohol abuse contains problem situations that are suitable topics for such modules.

The task force and the national board decided to develop several such test modules in their area of particular mutual interest. Each module is based upon a medical problem situation concerned with drug or alcohol abuse, or both, and contains some 150 to 180 score points. A test booklet containing such a module constitutes an examination of reasonable length, about 2 hours, capable of producing a modest number of subscores that should be significant for small groups if not for individual students. The medical problem situations generally have the form of a case history, but they can be built around other problems in health care delivery, research situations, or the laboratory. The problem situation supplies the primary data base for the module; however, it may be modified or expanded at various points as the module is developed.

Instead of emphasis on particular subject contents, as has been customary in so many knowledge-based examinations used in the medical curriculum, the evaluation sought in these test modules is of six roles expected of the young physician as he enters graduate medical education. These roles are:

- The collection of data;
- The analysis of data and definition of problems;
- Judgment in deciding upon and adopting appropriate physician intervention;
- Judgment and skill in implementing treatment by appropriate surgical, counseling, and other techniques;
- Acceptance of responsibility for health maintenance; and
- Professional attitudes appropriate to individual and community roles and responsibilities as a physician.

The efficiency with which subscores relevant to each of these roles can be developed is yet to be determined.

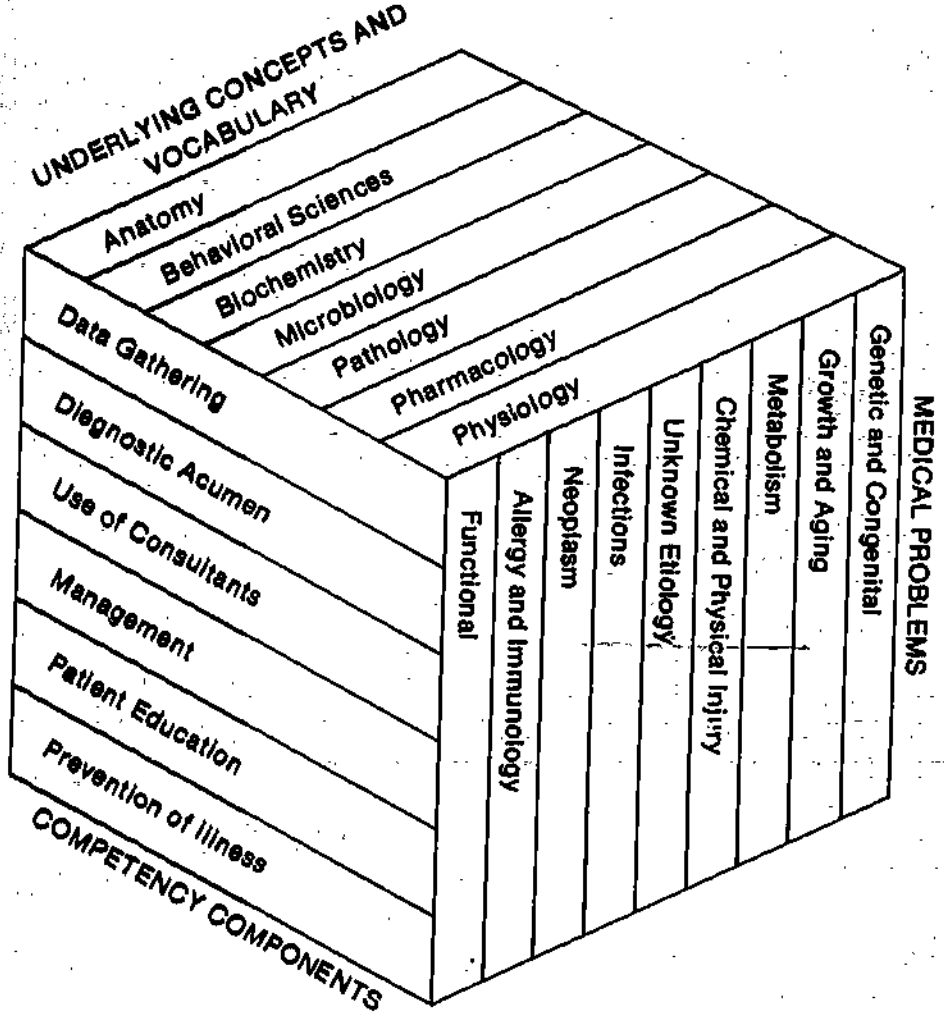
The domain of medical competence to be sampled in evaluating the six fundamental roles has been described in three dimensions: underlying concepts and vocabulary, medical problems, and competency components.

A graphic representation of this concept of the total domain to be evaluated is represented in figure 1. Underlying concepts are presented in terms of the customary basic science subjects. The dimension of medical problems is described in categorical terms rather than in the usual clinical subject titles. It is readily recognized that this list is not totally comprehensive and is subject to expansion or modification as individual tests are developed.

The competency components dimension contains titles that resemble those of the performance roles for which evaluation is sought, but they differ slightly in their subject, in that they are to be applied to the qualities of an individual test item rather than the performance of the examinee in the situation into which s/he is being projected. This list is also less than fully comprehensive.

It is proposed that for most events in the data base, i.e., a particular observation or measurement, test items can be constructed that are rooted in an underlying concept, are relevant to the medical problem of which the observation is a part, and can be directed to reveal some aspect of a competency component. It is to be recognized that no one data base is expected to be sufficient for complete exploration of all possible components of the three dimensions of the domain of medical competence; but by the utilization of several data bases and ingenuity in recognizing situations within the data base, as well as the development of numerous scoring items, it is anticipated that significant scores can be reached.

FIGURE 1



The specific examination modules are constructed about a medical or social problem concerned with drug or alcohol abuse. The features of the problem are presented as a data base and test items that measure knowledge and problem solving abilities will be utilized to derive performance scores. Four such modules are under construction. Each module constitutes in itself an examination capable of yielding a significant content score. Combinations of modules will yield composite scores and subscores related to performance roles.

Of the four modules presently under construction, the first involves a situation based upon acute toxicity from alcohol and several drugs. The second is related particularly to heroin abuse and methadone management, the third is based on adolescent drug abuse with attendant complications in the family situation, and the fourth is based upon the history of a person with chronic alcoholism and organic medical complications.

Each test begins with a definition of the problem situation, the site and environment into which the physician examinee is to project him/herself, and a specific description of the medical facilities available. This is accompanied by such information as a list of normal laboratory values and schedules that more precisely define the background of the central medical problem developed in the test module. This

is followed by one or more patient management problems derived from the general information of the data base.

Each patient management problem consists of an initial paragraph containing introductory information about the patient and two or more problems, each containing a series of scorable options. The introduction may be lengthy or brief, depending upon the evaluation objectives and usually contains at least some initial historical information and physical findings. Each problem that follows is usually introduced by another short paragraph that may incorporate additional information and particularly defines the setting of that problem. Each option is a choice for the examinee to make regarding some form of information to be sought, an interpretation, or a proposal for action. When an examinee chooses one of the options s/he indicates this by developing an area next to the option printed in invisible ink. Additional information regarding the option is thereby given the examinee.

Following the patient management problems, the module contains groups of multiple-choice questions. These are arranged in relation to topics or events within the general data base or the stem of the patient management problem. They are essentially knowledge-based items in the customary multiple-choice formats and may explore rather remotely suggested correlates as well as specific concepts underlying decisionmaking in the problem situation. It is in this area that the opportunity is presented to evaluate the examinee's knowledge of underlying concepts and basic sciences.

When the four different tests or modules are all available, it is proposed that they might be utilized as pretests and posttests in a given institution and could form the basis for some comparative studies between programs at different institutions, the performance of certain groups of students or individuals, and student performance in the area of drug and alcohol abuse as compared to performance in other areas of the medical curriculum.

Other Projects John B. Griffin, M.D.

Secure Item Pool

The work of the task force on evaluation has resulted in production of a large question pool now numbering nearly 400 items. These questions have been divided into two parts. One part constitutes a secure item pool. The questions in this group have been kept confidential and are made available only under restricted conditions which maintain their confidentiality. At the present time the secure item pool has been used primarily as a source for yearly submission of questions to the National Board of Medical Examiners. These questions are distributed to appropriate test committees for consideration and possible inclusion in parts I or II of the National Board of Medical Examiners examination for medical students. The national board, of course, cannot guarantee inclusion of these questions. However, the regular submission of carefully constructed questions can reasonably be expected over the years to result in inclusion of a larger number of substance abuse questions than has been the case in the past on the national board examinations.

Nonsecure Item Pool

The remainder of the items in the question pool (at the present time about half of the items are included in the secure pool and about half are in the nonsecure pool) constitutes the nonsecure item pool. These questions are used to provide assistance to educators in the field of substance abuse in their teaching programs. For example, career teachers have frequently requested questions which could be

used to test general knowledge of their students. Items from the nonsecure pool can also be used to create pretest and posttest questions for specific courses. In discussing the best way to utilize the nonsecure items, the evaluation task force finally decided upon the construction of a general release examination. The questions in the nonsecure item pool are not regarded as confidential because they have been released for use in situations over which the evaluation task force does not have direct control.

General Release Examination

The first general release examination (GR-77) was prepared in the following manner: Two hundred questions were administered to a group of 21 career teachers in substance abuse. Two nonmedical persons also took the examination to serve as controls. Thus, the career teacher group was used to establish overall validity of the examination. An item analysis was done on the responses of the career teachers and the controls to be certain that there was general agreement about correct answers to the questions and to spot questions that were overly difficult or too easy. The career teachers and controls were also asked to make narrative comments about the questions as they completed the examination. These comments were used to eliminate ambiguity and to improve the construction of the test questions. From the original 200 questions, 150 questions were found to perform satisfactorily. One hundred of these items were selected to constitute the general release examination for 1977. The subject areas and abusable substances covered in the test were plotted on the grid discussed earlier to insure adequate distribution of items.

This examination was then released to 30 of the career teachers who wished to use it in their programs. The career teachers accepted the examination with the understanding that they would report to the evaluation task force the ways in which the questions were used, the scores made by their students on the test questions, and the items which were found most useful. The career teachers were given the option of using the examination in its entirety or parts of it as they saw fit. In addition, the general release examination has been made available to non-career-teacher schools.

If the responses from the schools utilizing this examination indicate sufficient usefulness, consideration will be given to the preparation of such a general release examination on a regular basis, perhaps releasing a new examination annually or every other year.

Knowledge Portion of STAK

The remaining 50 items which were found acceptable for use after the validation studies described above have been submitted to the committee which is preparing the Standardized Test of Attitudes and Knowledge. This test is described in detail in the preceding chapter. The 50 items selected will be used for the knowledge portion, which will exist in a long form constituting 50 items, and shorter form constituting 25 items. The form used will depend upon the amount of time available for administration of the Standardized Test of Attitudes and Knowledge.

At this point it appears that the existence of a carefully constructed pool of examination items in substance abuse has many uses. However, definitive data concerning the usefulness of these items should be available with completion of the national board project and responses from schools using the general release examination.

With the use of the first general release examination and the national board project, no obligations have been placed upon those using the items except that they cooperate in the evaluation procedures. It is anticipated, however, that schools utilizing the item pool in the future will be asked to contribute to the item pool each time a general release examination is prepared.

Utilization of Test Instruments by Educators in Substance Abuse

Kenneth S. Russell, Ed.D.

The evaluation committee hopes to continue the development and refinement of the general item pool for questions in substance abuse. Any medical educator who would like to contribute to this development and have access to the resulting pool of questions may do so by contributing five or more original test items to the general item pool. In return, the educator's name will be placed on a list and he or she will subsequently receive the current issue of the general release examination in substance abuse.

The procedure for contributing test items is simply to send such items to John B. Griffin, M.D., Director, Medical Student Training, Woodruff Medical Center, Emory University School of Medicine, Department of Psychiatry, Atlanta, Ga. 30322.

Individuals who use items from the general release examination will be asked to report the ways in which they have used the examination and to report the responses of their students. If an item analysis of student responses is available, this should be sent. If not, copies of the student answer sheets can be sent to Dr. Pokorny and an item analysis can be done. Contact: Alex Pokorny, M.D., Program Codirector, Career Teacher Training Center, Baylor College of Medicine, Texas Medical Center, 1200 Moursund, Houston, Tex. 77025.

This information will be used to further refine and develop the test items. Participation and cooperation in the further development of the general item pool is both welcomed and encouraged by the evaluation committee.

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77

Opening Remarks

Marc Galanter, M.D.

On behalf of the membership of the Association for Medical Education and Research in Substance Abuse (AMERSA) and the career teacher program, I would like to extend a very warm welcome to our invited guests. It is a pleasure to come together on this occasion, the National Conference on Medical Education in Alcohol and Drug Abuse.

We have an important challenge before us. By drawing together on this occasion, we can have a major impact on American medical education. Within this room are enough medical faculty, if we continue to work together, to move the issue of substance abuse into the position of prominence it must have in the education of our physicians.

I will now make some brief remarks on the history of our group. These are directed in particular to the majority of the 200 participants in this conference who are not yet members of our association, and to the majority of our own membership, who have been associated with us for a relatively short time.

We began with the Career Teacher Program in Alcohol and Drug Abuse. That program was planned collaboratively by a number of leading figures in American substance abuse treatment, education, and research. Planning was conducted at the National Institute of Mental Health, beginning in 1969, where the decision had been made that America needed to rethink how it was educating its physicians to deal with the problems of addictive disease.

The separate alcohol and drug Institutes were established shortly thereafter, and the career teacher program was undertaken as one of the first and the largest joint programs of the two Institutes. It served as a valuable bridge between the Institutes in the area of training. This collaboration assured that efforts would not be duplicated and that the thrust of the undertaking would not be muted by overlapping activities.

The program was similar in structure to a number of others in different medical specialties. Perhaps the one most familiar is the career teacher program in psychiatry, which, over the course of a few decades, made an important contribution in establishing psychiatric education as part of the basic medical curriculum throughout the United States.

It was also decided to establish career teaching training centers, and Downstate Medical Center and Baylor Medical College were chosen as the sites. These served as a focus for orienting new career teachers, for disseminating information, and, for coordinating educational meetings for the career teachers and others involved in the program. In fact, neither Government representatives, career teachers, nor training center personnel were entirely clear about where this endeavor would lead.

As it turned out, this served as an interesting lesson in the social psychology of organizations. The "young recruits" were a bit dissatisfied with what their "seniors" had set up for them. There were unrest and complaints and insistence that the career teachers should be able to plan their own program better than would others. At that time and at ensuing meetings, a steering committee was elected for the career teacher group. The group, meeting three times a year, began to develop a sense of organization. Given the conflict between our goals and the structure of established medical curriculum, we might have promoted revolution. Instead, we have become somewhat institutionalized, with the hope of constructively influencing established medical institutions. We began to struggle for the opportunity to establish an organizational base that would have credibility.

As we meet today, that evolution does not seem surprising, but many of us here have met before under less auspicious circumstances. I recall well one meeting at Georgetown Medical School. We were not sure there was a clear hope for our organized group. After other options for support for this national conference gave out at that time, we decided to organize ourselves, to do our own work, to rely on our own resources, and to depend on the alliances that we had developed over time. The Association for Medical Education and Research in Substance Abuse—AMERSA—was now an independent organization.

There has been an excellent rapport and a shared sense of commitment among members of the group. It has certainly been a pleasure to serve as the first president of the organization. It became possible over this time to go ahead and plan curriculums, continuing education programs, examination programs, a national conference, and other elaborate and carefully developed work. I think we did things that larger, established organizations had not yet done.

We decided to limit membership to the career teachers for the first year. Our plan was to hold a national conference which would allow for development of the identity of the organization and to provide a reason why others who share our interests might join. We invited physicians and allied professionals teaching in medical schools. Now, we ask you to join us, and anticipate a positive response because we've all stood very isolated in our medical centers. On a local level, unfortunately, our colleagues have expressed limited interest in education in substance abuse. I imagine that many of us have felt this way. Now we may join together.

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Keynote Address

Ernest Noble, M.D., Ph.D.

The late Billy Rose, one of the world's greatest showmen, once said, "Never invest your money in anything that eats or needs repainting." Billy never took his own advice, and we have only taken half of it in the case of the career teachers in alcohol and drug abuse.

Nonetheless, you have been a very good investment. In the past 5 years that the career teacher program has existed, 42 of you have been working in our Nation's medical schools, representing a third of these important institutions.

A recent survey based on about half of these placements indicates that about 18,000 medical students, 4,000 physicians, and 10,000 other health-related workers have been influenced by your efforts. They, in turn, can be expected to give better direct alcohol and drug services to large numbers of patients and indirect service to countless more patients through their catalytic influence on other health professionals.

Before any of you became career teachers, the number of curriculum hours devoted to alcohol and drug abuse education averaged a mere 12.4. Today that average approaches 74 hours. That's a sixfold increase. All of this is being achieved at an annual per placement cost of approximately the salary of an assistant professor in a medical school.

I want to congratulate you on these achievements and on the high quality and impressive number of teaching materials you have produced. They are a tribute to your abilities and your commitment.

Our task will be to find ways to get these materials into the hands of others who will make good use of them. There is no doubt in my mind that the career teacher program is working and working well. I can testify personally to the value of such programs because, like you, I began my interest in alcoholism through a Federal grant offered by the National Institute of Mental Health: the research career development program. It has turned into a lifelong commitment for me. Perhaps you too will find a lifelong commitment, and perhaps one of you will be at this lectern someday.

I have said you are a good investment. My purpose now is to suggest how you can become an even better investment. Let me begin by quoting another impresario of the entertainment world, the late Samuel Goldwyn. He once said, "God makes the star; God gives them the talent; it's up to the producer to recognize that talent and develop it." When you return to your university and your community, I want you to be the producers. I want you to recognize the talents in your university and your community and develop in those talents a sensitivity and involvement in the alcohol and drug abuse problems we all face. Opportunities for doing this lie all around. You can offer to give a continuing education course on alcohol and drug abuse for your local medical society. You can contact your public health officer to discuss how you can help him to develop a prevention or early intervention program in alcohol and drug abuse. Perhaps you have an old friend in a nearby medical school where little is being done to provide learning experiences in alcohol and drug abuse. Why not contact that old friend and see if you can interest him or her in getting something started there.

If you are looking for other ideas you have only to call and chat with the person who serves as your State alcoholism or drug abuse authority. A regular liaison with that person could generate some powerful ideas. That person has control of the purse strings in your State and can help put into action any ideas you have for bringing alcohol and drug concerns into the mainstream. You are a unique intellectual resource to these authorities. With similar goals in mind, the two of you need to get together.

Some of you have been doing the very things I have been suggesting, and more power to you. Others may pick up on these ideas as well and, if so, more power to you, too. I know you cannot do everything. There are only so many hours in a day. It is much more important that you impart your own style and talents to the mission.

Some of you will influence the field through research that attracts the interest and admiration of your colleagues. Others of you will become good at curriculum development. Still others will express their talents by helping to organize their community's health care systems.

But, whatever you are doing, you will do it even better when you reach out into new directions. If you are good at research, you become better at research for having spent some time in the living laboratory of your community. Giving a continuing education course for practicing physicians may spark some teaching ideas that you can put to use with your medical students.

I think of your work as an effort to shape and influence two dimensions of time: the present and the future. The program is embodied in your work with our existing health care network. The future is embodied in your work with medical students, tomorrow's practitioners. By influencing both of these dimensions you double the value of the American people's investment in you. Within your universities you have been working to extend the awareness of alcohol and drug problems into other departments and disciplines: internal medicine, anesthesiology, cardiology, oncology, gynecology, nursing, and social work. Quite a few here are psychiatrists. As a psychiatrist, I'm proud of that. At the same time we all know that the psychiatrist is not often the first person to see a patient with a drinking problem. If we are to reach the large mass of people who need help, we have to get the primary care practitioners and other specialists involved, too.

That is why I'm so pleased that a group of you have been the moving force in getting questions about alcohol and drugs included on the qualifying examination of the National Board of Medical Examiners. This legitimizes alcohol and drug problems in the world of medicine. It puts every medical school and medical student on notice that the treatment of persons with alcohol and drug problems is now an integral part of what an aspiring physician must know in order to practice medicine.

I regard the inclusion of these questions on the board examination as a landmark step in bringing alcohol and drug treatment into the mainstream of medical practice. And I'm very proud indeed of the career teachers who made it happen.

I am also pleased with the career teachers who developed a manual on alcohol and drugs for emergency room physicians. It is important that these physicians know how to manage detoxification. It is equally important that they learn to recognize alcohol and drugs as the cause of many an accident, physical abuse, or other violent injury that they treat. Unless patients with these injuries are referred for treatment of their alcoholism or drug problem, many will be returning at a later date with injuries, and some will never return, because they will die in some future mishap, fire, or crime of violence.

I am glad to know that some of you have been going on grand rounds. That is an excellent opportunity to sensitize your colleagues to the problems and complications they will encounter among patients with alcohol or drug conditions.

I am also delighted that the career teachers at the Mount Sinai Medical Center in New York and at Northwestern University in Chicago have been instrumental in establishing occupational alcoholism programs at their schools. These programs are highly cost effective. The Rochester Institute of Technology began a program for

$450. In a single year, 51 employees were helped, saving the Institute $363,000. These savings were achieved in lower employee turnover, fewer medical claims and workman's compensation, less absenteeism, and a drop in life insurance death benefits. Offhand, I do not know of anything that would give your mission more favorable attention than if you were to promote such a cost-effective program at your own university.

Before I conclude, I want to give you my view of what is happening at the National Institute on Alcohol Abuse and Alcoholism and in what direction we are headed. The most immediate item of interest is a national plan for combating alcoholism that we initially drafted at the Institute. It is now circulating among the Nation's alcoholism-concerned community for reaction. A dominant theme of that plan is what we call "Operation Mainstream," which proposes to get alcoholism out of the closet and into the limelight of concern and commitment among the public, the social and health care fields, the health insurance industry, government, and the business and industrial communities. Alcoholic persons are still stigmatized and neglected. Families hide them; employers will not give them jobs; health insurers do not cover alcoholics; courts consign them to the drunk tank; and hospitals refuse to confront alcoholism as a major health problem that needs their attention.

Also, as you know, many practicing physicians simply avoid handling them as patients. We have to change all this. Our national plan lists goals that will help to bring about this change. We believe these goals are within the Nation's reach within the next 5 years, and I want to cite them.

1. We want to see 60 percent coverage of health care costs for alcoholism treatment by third-party insurance payers. We also want to see that at least half the insured population has broadly based coverage for alcoholism services. When this goal is reached, there will be an economic incentive to treat alcoholic persons, rather than the economic disincentive there is now.

2. We want to see occupational alcoholism programs expanded to take in half of the work force. There are powerful emotional and economic reasons why people will accept treatment that has been suggested at their workplace, and we want to take advantage of those reasons. We also know that employed persons accept treatment sooner and that early treatment significantly improves their prospects for rehabilitation.

3. We want to double the Nation's research capability in alcoholism and focus on findings that can be directly applied to prevention and treatment. We need to understand much more about the etiology of alcoholism, the social factors and trends that affect sexes and age groups. We need to develop pharmacologic agents useful in treatment. We need a good mass screening test. Not least of all, we need to understand the biological, metabolic, and life situation risk factors associated with alcoholism. Somewhere down the line we want to be where the cardiovascular field is now, and be able to help physicians and people assess their own risks with alcohol use based on age, sex, personal habits, emotions, life role, and the common situation factors they encounter.

4. We want to reduce the heavy drinking that characterizes 11 percent of the Nation's adult population by bringing into treatment existing problem drinkers and by helping others avoid ever reaching this stage. In a sense, this fourth goal is a measure of whatever success we achieve with the first three. One measure of success of this goal is the Nation's annual per capita consumption of ethanol. It is now 2.7 gallons. Heavy drinkers account for a large share of that. One survey we commissioned shows that from 10 to 15 percent of the adult population drinks 65 to 80 percent of the beverage alcohol.

Now I would like to tell you some of the things we are doing and plan to do in order to achieve the four goals that I have cited. Seven years ago, only a handful of people were working to get employers to establish occupational alcoholism programs. Today, Federal funds have put at least 1,125 occupational program consultants to work and the number of occupational programs has increased from 300 to about 1,000. We are now providing grant money to several State labor

organizations so that they can develop ways to establish joint labor-management approaches to look into the establishment of more such programs. Once an employee is brought to accept treatment through a program, the financing mechanism must be in place. Currently we face the problem that health insurers do not offer broadly based coverage for alcoholism services. One reason for this is that they lack the actuarial experience for setting rates. They also lack the marketing know-how. That is why the National Institute is trying to develop a model benefit package for alcoholism services among health insurers.

Prepaid health plans and HMO's need to be brought into the alcoholism picture. We have funded a project by the Rhode Island Group Health Association which has succeeded in getting 150 employers to establish occupational alcohol programs. They then refer their employees to the group's medical facility for treatment. Thus far, 750 employees a year are being referred for treatment, and 70 percent of them are staying abstinent afterward.

We also want to look into the question of the availability of alcohol. For one thing we want to look at the alcoholic beverage control laws of the States. When President Roosevelt signed the bill repealing prohibition he said: "I ask the whole hearted cooperation of all our citizens to the end that this return of individual freedom shall not be accompanied by the repugnant conditions that obtained prior to the adoption of the 18th Amendment, and those that have existed since its adoption . . . I trust in the good sense of the American people that they would not bring upon themselves the curse of excessive use of intoxicating liquors to the detriment of health, morals, and social integrity . . . The objective we see through a national policy is the education of every citizen toward a greater temperance throughout the nation."

The ABC laws of the States were an effort to abide with the spirit of F.D.R.'s words. No one can say what results these laws have achieved. Our guess is that the present ABC laws are not meeting the purposes for which they were intended in any coherent way. We want to study these laws and perhaps come up with some recommendations for change.

We also want to look at the price of beverage alcohol. It appears to be inexpensive today in relation to disposable income. We want to find out whether alcohol consumption is related to change in price, and if it is, at what point, among which groups in the population, and to what purpose. Some people call this approach neoprohibitionist, whatever that means. One thing I can tell you—it does not mean that we are trying to bring the Nation around to another experiment with prohibition. However, we do have to recognize that the magnitude of our problems with alcohol may well be related to its availability. We would be remiss in our responsibility were we to ignore this possibility.

We are going to look at alcohol both from the consumption perspective and from the human attitude perspective, and when our studies come up with useful findings we are going to tell the Nation what those findings are and let the chips fall where they may.

That is a brief look at what we are doing at the National Institute. I wanted to give you the flavor of our thinking and some idea of our plans. You career teachers figure largely in those plans. We view the physician as a central figure in the chain we are trying to build through the goals of "Operation Mainstream." Only when physicians acquire the know-how and accept the commitment to treat alcoholic persons will we begin cutting sizably into the problem. You teachers are the key to that. You are few in number, but powerful in your influence. You are the catalysts of change and you occupy the high ground of the medical school for exerting that change. Your students look up to you. That means you are influencing tomorrow's medical practice. Your associates in medicine respect and listen to you in the collegial spirit of the profession. Through them you are also influencing today's medical practice. As you influence both these groups you also influence the entire health care field and its allied professions. And as physicians put alcohol and drug problems into mainstream medical practice, they in turn will influence public attitudes as well.

Your work is like a pebble cast in a pond. The ripples travel outward in all directions and they reach distant shores. Your impact is beyond measure. Keep up the excellent work you have been doing. Do not lose that fine edge of dedication that brought you to this work, and remember always that we are depending on you.

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Debating the Issues I: The Rôle of the Physician in Substance Abuse Treatment

Moderator: Frank Seixas, M.D.

This conference is like a deja vu phenomenon for me. Nine years ago I convened a conference called Professional Training in Alcoholism. The representatives of 30 medical schools who arrived were full of hope and ideas and enthusiasm. Fragments of teaching on alcoholism could be found in many courses, but they were not integrated, and the medical students themselves felt on graduation they knew little of how to handle an alcoholic.

How excited we were when the career teachers program was established. It meant that participating schools would have a designated faculty member around whom instruction on alcoholism and drug addiction could center. The first six career teachers were presented with copies of the proceedings of *Professional Training in Alcoholism,* published by the New York Academy of Sciences. Subsequent meetings of the NCA National Alcoholism Forum have provided a platform for the presentation of pedagogical papers by career teachers. Indeed, Dr. Kissin and I independently proposed regular meetings of the career teachers with the object of sharing techniques and building an "espirit de corps." It was a pleasure for me to represent NCA in preparing one such meeting devoted to alcoholism with the National Institute on Alcohol Abuse and Alcoholism. The NCA Journal, *Alcoholism: Clinical and Experimental Research,* contains a regular column,

"With the Career Teachers," which Joel Solomon writes where we try to keep people informed on this group and AMERSA.

The exercise this morning, "The Role of the Physician in Substance Abuse Treatment," is an important one. I think the two sides are clear: Should there be a physician specialist in alcoholism and drug abuse? Alternatively, should we concentrate on making every physician as able as we can to deal with alcoholic patients in his practice?

There are subsidiary questions in this debate. Do we really consider alcoholism and drug abuse diseases? Must we consider behavior alone? Should we relegate behavior to the position of a symptom reflecting preexisting or induced changes in neurobiological functioning? Should the physician remain in the background entirely, merely referring to and consulting with lay counselors on demand?

Unless the debate brings in an unexpected, unassailable argument proving that either the education of specialists or the instruction of all physicians is futile, one might hope to remain firmly devoted to both thrusts. We can expect each to be buttressed with new incisive arguments.

Should All Physicians Be Trained To Treat Alcohol and Drug Abuse?

In Favor: Benjamin Kissin, M.D.

The position I will take in this discussion has been developed more completely in chapter 2, volume 5, of The Biology of Alcoholism, which Henri Begleiter and I edited. It's called "The Medical Management of the Alcoholic Patient." The question to be addressed is: Should all physicians be trained to treat alcohol and drug abuse?

We speak of substance abuse treatment as though it were a single operational phenomenon which it obviously is not. I'd like to divide the issue into several categories. First of all, we can categorize it into alcoholism and addiction to other drugs. Drug addiction, in turn, can be divided into opiate addiction, a species unto itself, and other types of drug dependencies to so-called soft drugs and hallucinogens. It's clear that the role of the physician in the treatment of alcoholism may be different than in the treatment of other drug addictions, particularly narcotic addiction. The very fact that narcotic addiction is illegal and has very strict legal sanctions attached to its treatment immediately makes the role of the physician in the treatment of narcotic addiction quite different from that in alcoholism.

Similarly, it's equally important to separate stages of acute intoxication and acute withdrawal syndromes in both alcoholism and drug addiction from long-term rehabilitation. These withdrawal phenomena may take a week, sometimes 2, or even as long as 3 weeks to be treated. The long-term rehabilitation of the alcoholic and the drug addict should never be discussed in terms of less than years. The role of the physician in the acute phases, i.e., in the diagnosis and treatment of acute episodes of alcoholism and drug addiction, is obviously different from his role in the long-term rehabilitation of the chronic alcoholic or drug-addicted individual.

All physicians must have some familiarity with at least certain aspects of alcoholism and drug addiction. Every physician, whether a psychiatrist, internist, surgeon, ophthalmologist, or obstetrician, should know about the diagnosis and treatment of the acute withdrawal syndromes in alcoholism or drug addiction because inevitably, at some point in his career, he is going to have experience with it. If he does not know how to recognize it, whether in the pregnant woman or an infant in heroin withdrawal, he will not even begin to know how to deal with the problem.

It is perfectly apparent that every physician must have a basic knowledge of alcohol and drug dependence upon which adequate diagnosis can be made. The necessity for educating medical students in this fundamental aspect is evident and, from my point of view, hardly open to argument. More significant questions are: Who should the physician treat and who should he not treat; should the average physician, the psychiatrist, the internist, the family physician in private practice undertake the long-term rehabilitation of chronic alcoholics and chronic drug-dependent individuals?

As I have indicated, every physician must have the ability to diagnose and treat the acute epi-

sodes. If, for example, he unsuspectingly delivers an infant who goes into withdrawal, or if he is doing surgery and the patient is in withdrawal, in addition to calling in a consultant, he should also have some concept of the complications of withdrawal and of the approach to treating those complications. Therefore, it appears to be beyond disputation that every physician should know the basic principles of how to recognize and treat the acute syndromes in alcoholism and drug dependence.

Concerning the major question of whether physicians, particularly the primary practitioners in private practice, should undertake the long-term rehabilitation of chronic alcoholics and chronically drug-addicted patients, I feel that all physicians in three categories—internists, family physicians, and psychiatrists—should be able and willing to undertake such treatment in certain kinds of alcoholic and certain kinds of other drug-dependent individuals. Certainly not the treatment of narcotic addicts. That is legally too complicated for physicians to undertake in their own offices. But I do believe that for certain types of alcoholics, the physician can be a very important resource. The 85,000 private physicians who fall into these three categories—internists, psychiatrists, and family physicians—represent one of the greatest and best resources for treating alcoholics that we have. Even now, while this whole question is in dispute, these 85,000 physicians in private practice are already treating alcoholics, a fact that is not well known.

Three studies have been done in this area: one by Bailey, another by Jones and Helridge, and the third by Glasscote. Without going into the details, they found that the average physician in these three categories has under treatment at any given time, about three alcoholics. If you multiply three times 85,000, you come up with a figure of about 260,000, of whom about 75 percent are in active treatment. So, there are presently about 200,000 alcoholics in the United States who are being treated by family physicians, internists, and psychiatrists. Whether they are being treated well or not is another issue, but they are being treated. This figure of 200,000 compares favorably with the total number of patients that are being treated in AA. Leach and Norris indicate that in the year 1970 there were about 200,000 people with alcohol problems in the United States actively in AA. That 200,000 figure comes up again as an estimate of the number of patients in all federally funded, State, and locally funded alcoholism programs.

Unquestionably, there is a certain amount of redundancy there and I'm sure that about half the patients in the alcoholism programs are also in AA. Hence, there are probably about 500,000 patients who are in active treatment in the United States, and physicians constitute a significant portion of those providing treatment.

What, then, is the history of success of physicians treating alcoholics, as opposed to psychiatrists and social workers? Interestingly enough, there has only been one study that even tries to compare these three groups on their overall effectiveness. In that comparison, the internists did best, the social workers did next best, and the psychiatrists did most poorly. That conclusion was reached by Gerard and Saenger in their excellent study on outpatient clinics. Apparently, in the structured situation of an alcoholism program, medical physicians can be effective primary therapists. That may or may not be the case in private practice, but certainly they are acting as primary therapists there also.

Under these circumstances, it seems that as leaders in this field we have a responsibility to teach those physicians in private practice how they can treat patients most effectively. If there has been any fault in this area, I don't believe the fault has been with the private physicians, for they have undertaken to treat these patients. I think the fault rather has been with us. We have never told them what types of patients they ought to work with and what to do with these patients. We have never told them how they should treat certain patients and how they shouldn't attempt to treat others.

The criteria for diagnosis of alcoholism which Frank Seixas' group at the National Council on Alcoholism has developed has begun to show physicians how to diagnose alcoholism. I think we now have to go a step further. Now that they know how to diagnose alcoholics, we have to set up criteria on how they can differentiate be-

tween different types of alcoholics so they may learn which alcoholics can be treated successfully in the private office and which alcoholics cannot. For example, the family physician or internist who tries to treat the patient with severe psychopathology is obviously heading for trouble, both for himself and the patient. But this is only one example. It seems to me that there has to be an attempt to set up criteria to adequately select and appropriately treat patients in private practice.

We do attempt to do that in "The Medical Management of the Alcoholic Patient," and we come up with some very rough recommendations. The family physician and internist can do very well with the socially stable patient with relatively minor psychopathology, particularly if he knows the family well. He knows the husband and wife and can talk to them. He can suggest, for example, the use of Antabuse to the husband. If the husband is really willing to go along with it, we have found that having the husband take the Antabuse in the presence of the wife at dinner is mutually supportive.

I treated many such patients as part of a large practice in internal medicine. I did not specialize in alcoholism per se, but I always had 20 or 30 patients who did very well with no psychotherapy and no social supports other than bringing in the families and talking to them for a half hour. I never did an actual statistical account, but 70 to 80 percent of the patients did absolutely fine. These were socially stable people, very much like the group that Griffith Edwards recently reported on. His paper suggests that they might have done just as well if they had not come to my office at all, but the point is that the patient who is socially stable, whose alcoholism has not yet disrupted his family life or employment, can with relatively minor support from the physician, be greatly helped by the family physician or internist. On the other hand, the more psychiatrically ill patient can certainly be treated in the office of the psychiatrist.

In my experience, the patient whose life has already been disrupted, whose family is broken up, who does not have these external resources, and who has lost his job, does not do well under the auspices of a family physician but does better in a public program.

In all of this, I am not for one moment suggesting that this become an alternative to AA. Certainly AA has been the major source of improvement and rehabilitation for alcoholics throughout the world. But this type of treatment can be seen as an adjunct to AA or if you prefer, AA as an adjunct to this form of treatment. In summary, I feel that the family physician, the internist, and the psychiatrist can do a great deal in the long-term treatment of the alcoholic.

I also think this is fine for certain types of drug addiction. For example, the 16-year-old kid who's getting very high on marijuana can often be brought to the family physician who can talk to him like a Dutch uncle and often get him to straighten out. This is particularly true where the drug use isn't accompanied by severe psychopathology. If it is, then the patient should be referred to a psychiatrist.

I think that most of us are in pretty close agreement on this issue and the question appears to be not so much should private physicians treat alcoholics, but rather, under what circumstances and which private physicians. Dr. Pattison mentions the socioeconomic factors. I think it's true that the family physician, internist, or psychiatrist are all very busy and if they get an alcoholic who is socially disrupted and can't pay his bills, this turns out to be very frustrating. It's a cruel and harsh thing to say but the private physician is probably better off not treating that type of patient, because he is not going to be successful with that type of patient and it will just lower his tolerance for other alcoholic patients. This type of patient needs an extended psychosocial support system. The private physician does not have these resources available, and the alcoholism treatment program does. So, for the sake of the physician and the patient as well, the physician should not undertake treatment of the socially disrupted patient.

The question of delineating which physician should treat what kind of patient with an alcoholism or drug problem and under what circumstances is a critical one. Certain physicians relate best to certain kinds of patients.

Not all physicians are psychologically or socially oriented. However, in some cases, a totally biologically oriented physician can be very effective with a field-dependent, externally oriented patient. With such a patient, who usually has tremendous respect for the physician, the physician may say, "I find that your liver is down 6 inches." This has a great impact on this type of person. What I used to do with that type of patient was to take a pen and mark a line at the liver edge. Each month I showed him how the liver was becoming progressively smaller with abstinence.

However, this approach can also be dangerous if you have a self-destructive patient who is really out to kill himself with alcoholism. To tell a depressed, self-destructive alcoholic that his heavy drinking is killing him, is to say just what he wants to hear. So he continues to drink more heavily. When you find yourself dealing with that kind of patient, the family physician or internist should quickly get him to a psychiatrist. The first things to recognize are your own limitations, which kinds of patients you can do well with, and those for which your treatment could be disastrous.

Finally, I think the idea of having physicians treat the socially stable patient with an intact family may be the most effective means of primary and secondary prevention of alcoholism. There we can pick up alcoholism in its earliest stages, since the private physician is usually the first professional to really see the alcoholic. By the time patients come to alcoholism treatment programs they are far along the road. The alcoholic with minor problems is the ideal kind of patient for the family physician to treat. The physician can contribute in a major way to the early detection and early treatment of the early alcoholic.

Against: E. Mansell Pattison, M.D.

Alcoholism is said to be the No. 3 health problem in the United States. Alcoholism is well known in the medical community, it has been well discussed, and most physicians see alcoholics all the time. It is no great news if you go to any medical school and talk with medical students or faculty and state that alcoholism is a medical problem. They will all agree. We don't have to argue the point that alcoholism is a major health concern.

Ardent proponents of the so-called disease concept of alcoholism propagandize that physicians should have a primary role in the treatment of alcoholism, on the other hand, skeptics point to the traditional disinterest and noninvolvement of the medical profession, dysfunctional involvement, and mismanagement by the medical profession as evidence that physicians have a peripheral or even a nuisance role. I suggest that both extremist positions are untenable. (1)

In point of fact, physicians have a great deal to do with alcoholism. But the question is, how are they involved? What are they doing with alcoholics and what is the result? The problem we face is that physicians do not see people coming in saying, "Dear doctor, cure me of my alcoholism." Rather, patients usually present themselves in one of three disguised situations.

First, they present themselves with complaints of *complications* of alcohol abuse. These include hepatic, cardiac, hematologic, and neurologic complaints. These people do not consciously link their medical illness with their alcohol use and abuse. As a matter of fact, their problem is very much like many other patients who have psy-

chophysiological illnesses in which one has to do a job of reinterpretation. We do not train physicians adequately, or even at all, how to link in the patient's mind the complications they suffer with the antecedent causes, e.g., alcohol use.

The second group presents with the consequences of alcoholism, such as fractures, head trauma, and burns. These patients may recognize that their medical problems are directly tied to their drinking but are not likely to complain of their alcoholism.

The third group recognizes their alcoholism and may seek medical help for it but disguise their situation with a somatic complaint such as insomnia, nervousness, and anxiety. These patients will say, "Yes, I went to my physician hoping he would catch me at it, but I tricked him." We have a very nice game in which physicians learn how to trick alcoholics, and the alcoholics are there trying to figure out how to trick their doctor. When the jig is up and the trick is exposed, both are deflated because it is no fun playing the game anymore and no treatment occurs.

We have to look beyond just the fact that doctors see alcoholics, for of course they do. They may even correctly identify an alcoholic. It is not that doctors are ignorant or do not see what is in front of them. The critical issue is what do they do after having made their medical observations.

In medical school education we often ignore the profound impact on young physicians who are exposed to stereotyped alcoholics. Medical students say, "Oh, yes, we know about drunks." They are referring to those people who are socially unacceptable, who are disheveled, and who show up in the emergency room. We do not show them any other people who have alcohol problems. Therefore, their initial and often only formal definition of the alcoholic is in terms of skid-row stereotypes. This is dysfunctional because the first exposure is a permanent imprint.

Alcoholics do show up in the caseload of community physicians. The Jones and Helrich study (2) of 3,376 internists found that only 3 percent saw no alcoholics, whereas 16 percent saw over 20 alcoholics per month. Interestingly, half of these alcoholics were women. It is estimated that 70 percent of physicians in private practice see at least 10 alcoholics a month (3). Dunn and Clay (4) state that 10 percent of physician internist caseload outpatients are alcoholics. The same study indicates that only 40 percent of general hospital staff referred alcoholics for treatment. Sixty-five percent of the referring staff were general physicians; 21 percent, internists. Among the nonreferrers, 61 percent were surgeons. So we need to examine the influence of specialty practice on the physician's management of the identified alcoholics.

In an unpublished study, I reviewed the actual caseloads of 25 physicians in the community and found that identified alcoholics are quite willing to accept referral. Among 25 physicians' caseloads of alcoholics, the most that any 1 alcoholic was seen was for 3 visits, and in no instance was any referral for continuing treatment made by the physicians (5).

If we look at hospital statistics, the problem is even more amazing. The incidence of hospitalized patients who can be identified as having moderate to severe alcoholism ranges from 27 to 60 percent of general hospital populations. Barcha et al. (6) found the highest incidence of alcoholism is associated with respiratory, cardiac, endocrine, and neurologic illness. McCusker et al. (7) state that alcoholism was found in 100 percent of patients with seizures, 67 percent of those with respiratory disease, 53 percent with liver disease, and 25 percent with cardiovascular disease. Eighty percent of individuals with tuberculosis in one study were alcoholics. Among the aging, the prevalence of alcoholic symptoms is 35 per 1,000 on routine examination. Gaitz and Baer (8) found 44 alcoholics per 100 in a psychiatric screening study.

Of all alcoholics in the hospital that were identified in McCusker's study (7), only 55 percent had been diagnosed by the attending physicians at admission; at discharge, only 45 percent maintained the diagnosis. Apparently, alcoholics get *undiagnosed* very rapidly! A study by Dorsch and Talley (9) showed that of identified alcoholics in an emergency service, only 16 percent were referred for alcoholism treatment, and 20 percent were hospitalized; thus, 64 percent were identified—diagnosed, but received no referral.

What happens with outpatient services? The Jones and Helrich study (2) reported that treatment given to alcoholics by 90 percent of the internists reviewed was the prescription of drugs and nothing further; 83 percent of the physicians in the sample prescribed tranquilizers and antipsychotic drugs. The questions raised by such treatment include: Is it efficacious? Does it reinforce symptoms? Does it produce mixed addictions? Does it ptoduce crossed addictions? Does it produce alternate addictions?

It is obvious that physicians are treating alcoholics all over the place all the time. The question is not how do we teach physicians how to treat alcoholics—that is not the problem. The real question is to change how physicians are treating alcoholics. The issue for education about alcoholism in medical school and residencies is how to uneducate or disabuse physicians of fallacious and perhaps destructive treatment methods as well as to educate for appropriate and efficacious management of the alcoholic.

Medical education and alcohol education as discussed here tend to focus primarily on the medical student. Yet the major socialization of physicians and the carving out of attitudes, values, and patterns of practice occur during the residency period, not in medical school. The real challenge for us in medical education is how to introduce alcohol and drug abuse education into the *residency* portion of medical education.

Medical education is still organ and disease oriented, whereas alcoholism (not the consequences or complications of alcoholism) is a person problem. But medical education is not person oriented. Most physicians today know how to deal with fetal drug syndromes, fetal alcohol syndromes, etc., because these are organ problems. Alcoholics who enter into the medical system get reasonably decent treatment for their organ pathology. They get no treatment for their alcoholism, which is a person problem, any more than any other medical patient with a person problem in medicine gets good treatment: the patient with chronic back pain, the patient with chronic heart trouble, the patient with chronic prostatitis, the patient who has a prosthesis, the hemiplegic, the person with a stroke. These are chronic syndromes that involve multiple agencies of care. These are the people who don't get good treatment in our system, and the alcoholic is not alone in that. Everybody who has chronic complicated, multisystem, multimodality sorts of medical syndrome problems gets poor treatment in our medical system. We are fooling ourselves if we attempt to solve the problem of person-oriented treatment in alcoholism without regard to the lack of a person-oriented medical education.

There are very few models of continuity of care that are whole person and family oriented in medical education. I call your attention to George Reader's paper (10) in which he reviews the failure of comprehensive medical care education in the United States of the last 30 years. Reader points out that we know how to educate students in comprehensive health care, we know how to educate students in total person care, we know how to educate medical students in continuity care, except we can't do it unless we have a medical delivery system which is comprehensive, person oriented and continuity oriented. These do not exist in most of our medical school complexes.

The system of delivery is critical. We tend to ignore the influence of the location of the physician and the type of delivery system in which he practices. The study by Gerard and Saenger (11) shows that internists were effective working in an *alcoholism treatment delivery system*. The Kissin et al. study, "Social and Psychological Factors in the Treatment of Chronic Alcoholism," (12) showed that in the sample from the alcoholism delivery system there was a subgroup of alcoholics who were positive responders to physicians. These people score high on social desirability; have high, stable ego defenses, are not internally oriented, but are externally oriented, and they respond well to authority figures. These are the people who do respond if you wag your finger and say, "Don't you know you're killing yourself? You know you are going to die if you don't stop drinking." These people will do well whether in a private system, in the public system, or in an alcoholism system.

What is the problem with the private practitioner, the 85,000 that Kissin mentions? We have not studied an important sociological parameter

of the patient-doctor interaction, because one of the critical factors that influences how the private physician acts with the alcoholic is the "getting and keeping" syndrome: "How do I get patients, and once I have them, how do I keep them?" What are the sociological parameters that influence how the private physician interacts in such a way that will not threaten the patient/physician relationship? We often teach physicians how to interact with patients in ways that may arouse patient resentment, patient hostility, patient suspicion, patient frustration. No wonder we then run up against brick walls, because we are not really up against just the personal attitude of the private physician, but also against a sociological, political, and economic reality. The economics of keeping patients becomes more important than provision of appropriate treatment. We have not addressed that issue.

Rather than recommend that physicians treat all alcoholics or treat no alcoholics, we ought to talk about what kind of physicians can treat which alcoholics in which contexts. Certain physicians who are interested can learn to treat alcoholism effectively. Some physicians will not wish to treat alcoholics, but can learn how to refer such patients for alcoholism treatment. And *all* physicians should learn acute management of alcoholics presenting with medical syndromes.

I want to make three additional comments. First, I am not sanguine about referral to psychiatrists. Just 2 days ago, a friend of mine called up from another city and asked, "Will you see an alcoholic patient of mine for evaluation?" I said, "I can't; I'm here for just a brief visit." "Well, who is a good psychiatrist in my city?" In this city of about 500,000, it turns out that the 1 psychiatrist who is an alcohol expert is not taking any more patients. Another psychiatrist is out of town every other week and prescribes nothing but tranquilizers to all the alcoholics who are referred to him. There were no other psychiatrists I could identify in that city of 500,000 who would accept alcoholics for treatment. Those of us who are psychiatrists have some housekeeping to do.

My second comment is in regard to education. Often, the only exposure to alcoholism treatment that medical students and house staff receive is an AA pitch. The problem is that there are often people who belong to AA who come in and give a very strong ideological antimedicine, antitherapeutic, antiestablishment pitch, and the medical students are turned off. They say, "Well, if that's the treatment for alcoholism, fine; let them go treat the drunks; I don't want to have a thing to do with it."

Third, if we're going to talk about referral, we will have to teach medical students and residents how to use community resources. A study by Elaine Cumming, (13) entitled *Systems of Social Regulation*, describes utilization of community health agency resources in the city of Rochester. She found that private physicians never used public resources or agencies for their private patients, even when their patients needed these services. In other words, what we have is an encapsulation of the private health delivery system and the public health delivery system, and the twain do not meet. I find it effective to take medical students around to every different type of alcoholism agency in the community, to talk with the administrators and the treatment personnel in order to expose them to the existence and function of relevant social agencies (14, 15).

One final thing about self-attitudes. A favorite anecdote relates to the diagnosis of alcoholism. A salesman comes in and says, "My wife says I'm drinking too much." The doctor asks, "Well, how much are you drinking?" and he says, "A couple of martinis for lunch and two or three after supper." The doctor says, "That's not an alcoholism problem, I drink twice as many as that myself!" We know that alcoholism is a major problem in the medical profession. We know that physicians have lots of unexamined attitudes about their own drinking. A debate is always raised with students when they discuss the definition of normal and abnormal alcohol use. How can we expect physicians, who have not looked at their own attitudes, to be able to assist the alcoholic client? (16)

In sum, we have focused our medical educational effort primarily on medical students and have ignored resident education. We have given insufficient attention to the specialty contexts within which medical treatment of alcoholics occurs. We have focused more on the general

aspects of alcoholism and neglected the practical issue of physician management. We have frequently overlooked education about utilization of community resources. And we need to emphasize appropriate definitions of normal and abnormal alcohol use.

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Debating the Issues 2: Physicians' Use of Alcohol and Drugs: Implications for Medical Education

Moderator: Sidney Cohen, M.D.

I am not going to make any introductory remarks because I want to give as much time as possible to the speakers. We have a fascinating topic: "Has Medical Education Focused Too Much on the Adverse Consequences of the Nonmedical Use of Psychoactive Agents?" Some of us may say, "What else can we do besides focus on this; this is the medical model." Still, we have to be open to the possibility of alternatives, and we are going to hear an alternative presentation.

I do hope we develop an adversary position between the two contestants. I don't want to see blood on the carpet, but anything short of that will be all right. I think that we learn best under conditions of stress.

Has Medical Education Focused Too Much on the Adverse Consequences of the Nonmedical Use of Psychoactive Agents?

In Favor: Norman Zinberg, M.D.

This is a subject dear to my heart. Potentially, it represents ideas which are central to medicine, and to what extent medicine should encompass a certain amount of social psychology versus a "hard, computerized" science. I do not think that medicine need be that kind of dichotomy, and I think part of the reason that it seems a dichotomy is that so often it is presented in very extreme ways.

It seems to me that most physicians really do struggle toward some kind of balance. Most of my professional life has been devoted to teaching nonpsychiatric medicine, and it has long been my feeling that one must not try to turn a good internist or a good surgeon into a bad psychiatrist. Rather, we should help them to think through what would make them good internists, e.g., how they could use their knowledge as internists to be socially and psychologically aware.

In no area of medicine is the teaching limited solely to illness. We always try to establish a baseline when we think about pathology. We know the difference between what is "usual," "normative," "moderate," or whatever word one uses, and what really represents the disease. But that notion has been avoided in the area of drug usage.

For the doctor to be able to discuss these things with a patient one way or another, he must be taught about the differences between "normal" and "abusive" drug usage. In medical schools, we must teach addiction, alcoholism, and toxic responses to all kinds of substances. That is absolutely essential, and I am not suggesting for a second that that teaching should be abandoned. But in no other area of medicine do we teach only the pathology without indicating the baseline from which that pathology springs. So I would not accept the argument that we do not have enough curriculum time to discuss "normative" drug usage. I don't think that time is the issue; the issue is the point of view from which people think about these things.

As an example, I recently consulted on an early version of the new *Diagnostic and Statistical Manual* (DSM-III) of the American Psychiatric Association. It treats alcohol and other drugs very differently. For instance, its definition of baseline alcohol use was 10 drinks over a 4-hour period producing no effect. That is an enormous amount of whisky; the definition suggests the notion that one must drink a lot of alcohol before behavior is labeled as psychiatric illness (which is what the diagnostic manual is about).

The definition for "marijuana abuse" was "twice a week for a month." Cocaine was four times in a 3-month period. I tried to explain to the authors of DSM-III that a very fair percentage

of the population would have "psychiatric diseases," using these definitions.

They said that I was concerned with the false positives, with those people who would be labeled "ill" who were not ill, while the authors were concerned with the false negatives. They were concerned with the psychiatrist who would miss drug abuse when it was there. And they were willing to go too far, so to speak, in order to avoid those false negatives.

It has been my experience that with drugs (other than alcohol) their concern was absolutely ridiculous. The physicians of my acquaintance, and the people I've taught with, are scared to death of drugs: Their tendency to find false positives is enormous. The idea that physicians would miss false negatives in this area struck me as very unusual. If physicians know that a patient uses a drug, their tendency to think that the patient might be in trouble with this drug is quick and sharp and very direct: physicians are terrified of drugs! I feel that rather strongly.

I oppose the notion that there is no normative, or relatively normative, drug use. Consider marijuana for example. To use President Carter's figures of August 2, 1977, 45 million people were using marijuana with some regularity in the United States. And the further point was made that most of these people use it very occasionally—something like once or twice a week. Fewer than 1 percent use marijuana daily. So this is moderate, relatively controlled use. But some physicians do not know this, have a lot trouble learning this, and have not really taken this into account. When they see patients who use this drug, they tend to get very frightened about it.

Recently I looked at medical school courses with a panel of teachers. There was nothing but pathology in any of the curriculums presented. There was nothing that showed a baseline from which to differentiate pathological from difficult experiences.

Physicians are faced with patients who ask them questions. Whether physicians like it or not, their role as givers of information around drugs and medical conditions is very important. A lot of patients ask their doctors about things that the doctors don't know very much about, where the information is sparse or filled with mystification, misconceptions, and so on. Physicians find it very hard to answer these questions and may answer by providing a lot of scare material. For instance, a recent patient of mine did what I would regard as moderate, controlled drinking, but he was concerned about the drinking of one of his children. So he saw his doctor. The physician showed him pictures of liver cirrhosis and esophageal varices, with a very terrifying lecture which created a lot of anxiety in the patient. That made it much more difficult for the patient to deal with his teenage child's drinking than if he had been talked with in a more reasonable fashion.

One of the things that I, as a psychiatrist, try to say is that the really primitive superego is not the doctor's friend. To beat people out of things, to scare them out of things, to tell them horror stories, really doesn't work very well. In psychiatric parlance, the doctor's friend is the ego. One may ask of people, "Well how does this behavior work for you? Is it scary or unpleasant? What's your impression of the general pattern that you and your friends follow?" One may ask of patients, "Do you know anybody who is in trouble with drugs, and how do people look when they are in trouble?"

Thus, there are many ways of finding out easily from patients, without the investment of a great deal of time, whether drug use works for them or against them. Quantity is only one of the issues, albeit an important one, because social patterns differ. What a Madison Avenue advertising executive is able to manage as "controlled use" might be very different from that of a Baptist minister in a small town in Georgia.

The physician has to know all of this because it gives him the capacity to deal with patients reasonably, without terrifying them. And this knowledge permits the physician to remain credible. For a doctor to talk with people about *trouble*, the doctor must know what trouble really is. I have seen physicians lose credibility in talking to young people and to their parents. Those physicians bring what they've gotten from their medical education, which is only addiction, severe pathology, alcoholism, and so on, which are all terrifying things. They know no normative

base, and they turn people off. Then when they *have* valid warnings to give, they are not listened to. Thus, the physician's retention of credibility is crucial.

Physicians also need the capacity to serve as controlling figures. By that I mean that prescriptions describe a reasonable way to use drugs under certain conditions. In playing that role, physicians have been very important sources of control, particularly with psychoactive drugs and illicit substances.

I am very concerned about physicians losing the capacity to act as a source of social sanctions, to provide reasonable rules, regulations, and ways of thinking about things. If they lose that capacity, it will be a tremendous loss not only in their relationships with patients, but in the power (and I mean this in the best sense of the word) of the medical profession to operate as a brake in social situations. Control in drug usage is achieved by the application of reasonable sanctions. It's not achieved by abstinence.

I recently got together all the definitions of drug abuse that had been promulgated over the years: legal, medical, and so on (1, 2). I want to cite three of the medical definitions. American Medical Association, 1966: "Abuse refers to self-administration of these drugs without medical supervision" (3). American Psychiatric Association, 1972: "The term drug abuse [is] to apply to the illegal nonmedical use of a limited number of substances" (4). Another definition: "For the sake of clarity and at the risk of simplification, misuse will be viewed as a nonmedical use of psychoactive drugs" (5). Medical students are taught that any nonmedical drug use is abuse. That is nonsense! Physicians who have been taught that have not learned any base of reasonable drug-use behavior, nor what behavior can be sanctioned. They haven't learned how different populations use different drugs. Physicians will have to know more than that.

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Against: LeClair Bissell, M.D.

First off, I was promised that this does not have to be a debate so I am allowed to agree with Dr. Zinberg on some of his points and not get into a fight.

However, I'd like to start by making a point, perhaps at his expense, and that is that the title of what we were to talk about was "Physicians' Use of Alcohol and Drugs: Implications for Medical Education." Interesting, we haven't even mentioned it.

The next part of it is, has medical education focused too much on the adverse effects of

drugs? That is what I believe we are supposed to address within the context, perhaps, of our own use of chemicals. Incidentally, that is one place where I do quibble. I do think that alcohol is a drug, and I get very uncomfortable when we talk about drugs and alcohol as if they are different beasts. To me there are simply legal drugs and illegal drugs, or prescribed drugs and self-prescribed drugs.

As teachers facing a group of medical students and as teachers who have made certain decisions about the use or nonuse of drugs, I think we have to ask, "What are we going to do?"

First, I think we are our brothers' keepers. How we play that out, of course, is open to a lot of personal choice. What I owe the medical student is as high a level of competence as I can possibly deliver—that means accurate facts, not opinions.

I'm not going to decide what the individual student is going to do about his own drug use. He's going to decide that. And for a couple of you who have been patients at Smithers and some of you who have heard us lecture there, you've heard me say over and over again to the patients there, "You're chairman of yourself, you're responsible for your own addiction; I'm just a doctor; the only thing I can do is tell you the truth as best I see it today."

Drugs have always been with us, but we're in an interesting kind of phase with drugs these days. I believe that medicine has changed from a concept of removing the bad from people to putting in some type of good. Remember we used to bleed and purge people; we used to make them sweat and we put leaches on them, exorcised them, and got all those bad things out.

Instead of taking something out, now the doctor/patient transaction is frequently deemed incomplete unless we give the patient something to fix him up, to make him either more energetic or less energetic.

An important area to discuss is physician prescribing practices for alcoholics. Most physicians seem to try to avoid prescribing Antabuse for fear of killing someone. By the way, we haven't seen any Antabuse/alcohol reaction causing death in many years. But isn't it interesting that physicians will prescribe minor tranquilizers or soporifics to alcoholics even though the death rate is infinitely higher? I think this gets to a kind of popularity issue. If you give Antabuse it means the patient has to stop drinking; but if you give Valium, Seconal, Tuinal, or Quaalude, nothing has to change.

We have a number of pressures to resist, and one of these pressures is that it becomes increasingly difficult for any one of us to be unpopular. Unfortunately, dealing with medical students as well as dealing with addicted patients, we frequently find ourselves in the position of having to say "No." You can't accept buying temporary solutions to human problems with chemicals. Unfortunately, I didn't stay for the film today, but my guess is that we saw once again what Kales had shown in 1974: Sleeping pills are effective for 2 weeks but no more, and then there are problems.

What about our own attitudes if we're going to have to say "no" to a student or ask that student to say "no" to a patient? I think it's pretty self-evident that if we cannot say "no" to ourselves about drugs our voices are going to have a different ring when we ask somebody else to do it. I just find it hard to ask somebody to do something I cannot do or am not doing.

I was interested in what Dr. Noble said about prohibition. It fascinates me that "prohibition" has become such a terrible word. Frankly, I think the worst thing about prohibition is that it cannot possibly work because it cannot be enforced. But it interests me that nobody seems to get upset over the idea of prohibiting cigarettes. In fact, the righteousness of some of my fellow ex-smokers absolutely drives me bananas. They do not for 1 minute apologize for making life miserable for people who still smoke. Crowding them into the backs of airplanes, sealing them off in various parts of restaurants—these are the kinds of things that the alcoholism community would never do in a million years. We are bending over backwards to have open bars at the meetings of national alcoholism organizations for fear that somebody might call us prohibitionists. Fascinating!

We are worried about prohibition, but we do not worry about prohibiting cigarettes. We are worried about prohibition, but we are still not coming to grips with prohibiting illegal drugs in spite of those kids still in jail in New York for smoking a few joints or peddling a few ounces of marijuana. Look at the furor that Dr. Noble ran into when he simply said he would like to lower per-capita consumption as a goal for NIAAA. Suddenly, people forgot that rates of cirrhosis had fallen in Europe when per-capita alcohol consumption went down. This might be a good thing to do for the health of the Nation. Suddenly there was a great squawk that this was "neoprohibitionist."

We have a kind of de facto prohibition going on in New York State. People on welfare or receiving SSI, if suspected of being alcoholic, are forced into treatment: an interesting requirement to put on one segment of the population. Why is this not termed "neoprohibitionist"? I wonder about some of the organizations who are being so hypercritical of drinking practices and accept a good deal of money from the distilled-beverage industry.

We have all of these rather interesting debates going on about should we or should we not set up a return to social drinking as the goal for the alcoholic. Should we also be trying to get smokers back to social smoking or to get mainliners back to a little Saturday night chippy habit? Why is it just booze? Why not social drug use or controlled drug use? Is it really that one substance is legal and another is not? After all, cigarettes are perfectly legal. As a recovered alcoholic, sober 24 years, I have been badgered, I do not know how many times, by people who were determined that I was going to go back to social drinking to prove one theory or another. But since I stopped smoking 3 years ago, virtually nobody has been pushing me to have two cigarettes after dinner. Why not? I doubt that I am going to develop emphysema or come down with squamous cell carcinoma on two cigarettes. Cigarettes are not even going to alter my thinking and judgment. I ought to be able to make an intelligent choice about cigarette No. 3 in a way that I probably couldn't about drink No. 3, and yet there is no such pressure. What's that all about? I don't have an answer.

Let's assume for the sake of argument that a third of all alcoholics, clearly alcoholic, could in fact go back to social drinking. I don't think anybody has claimed anything that exorbitant, but let's assume they could. Suppose one-third of the people who have had a reaction to penicillin could go back to taking penicillin safely. Look at the behavior of the physician faced with those two situations. The person with the penicillin reaction gets extensive skin testing and every possible antibiotic is used except penicillin. Frequently, the same person is recommending controlled drinking for all alcoholics. It doesn't make sense.

What about our medical students? I think we need to tell them they are at extremely high risk. We don't know what the actual prevalence of alcoholism and drug abuse is in the medical population: all we know is, it's pretty high. In just about every study that's been done, the medical student and the doctor are at greater risk—at least for the legal drugs, narcotics, minor tranquilizers, et cetera—than the general public. We know that health professionals in general are at risk, although in our studies we had only 2 percent of dentists addicted to narcotics as opposed to 18 percent of our physicians, and it looks like it's going to come out about 12 percent on the nurses. Availability does make a difference!

I think there is a tremendous denial of where we are with our own addictions. As soon as we start trying to set up sick-doctor committees in our own States or hospitals, we will begin to sense this. When we started trying to do something in the State of New York we discovered that our group health insurance policy (sold by the State medical society) had no coverage whatsoever for alcoholism.

It was just pointed out to me that the Federal health insurance which covers VA hospital employees (like other hospital employees) does not cover their treatment for alcoholism, in spite of the VA system's great current interest in alcoholism. The health care industry taken as a whole is the largest single industry in the Nation, and yet very few programs, very few hospitals, have done anything about providing adequate coverage for their alcoholic employees.

How are we going to do things that might make a slight difference? I would like to mention two or three possibilities. One thing I think we might do to alert ourselves to our own use of chemicals, and also as a way of getting to people who are hard to reach, will be to do something about sick-doctor programs within our own hospitals. JCAH is now requiring us to attest to the physical and mental well-being of each member of the medical staff. That means that the buck is now going to stop somewhere. The individual department is going to have to attest to the good health and competence of its own staff. This means guidelines will have to be developed in hospitals to deal with the impaired physician. One thing we might try is to withdraw hospital privileges for sick physicians contingent on accepting treatment. This type of approach has worked very well in industry where threat of job loss is a great motivator to get people into treatment.

Guidelines are now available from a variety of State and county medical societies. The county society of New York has a fairly good set which, with a little bit of adaptation, can work in most situations. Once you have an impaired-physician committee together, those doctors on your hospital staff are going to have to face the fact that they are now going to have to deal with some of their colleagues who are sick with addictive diseases. That is quite different from taking refuge in enzymes. It no longer makes a difference if the urinary amylase is more accurate than serum amylase; they are now stuck with the fact that a certain doctor drinks too much, and somebody is going to have to do something. Teaching physicians how to deal with an addiction problem in a colleague is a great entree into teaching them how to deal with addiction problems with all of their patients.

The best way to teach physicians about addiction is to start in medical school. However, if you get a course into the curriculum, don't expect the students to beat down your doors. Of the students who sign up for our elective, we discovered that, with the exception of two, every single one of those students had an alcoholic parent or an early alcoholism problem. There was a hidden agenda in every case except two. I think this suggests something: We have the sons and daughters of alcoholic parents in our medical school classes and in our nursing schools. I personally feel that this has some influence on career choice. If you are the nurturing, caretaking child in an alcoholic home, very likely you will go into a profession where you can continue this lifestyle. I am fairly convinced this is true in nursing; with medicine nobody has studied it. I think the way into the minds of these students is to give them what they want to learn, and what they want to learn is what are they going to do about the old man, or what are they going to do about the old lady.

I learned something a few years ago that I think is important but indirectly related to the topic. I used to think that if we taught medical students about addiction, they would carry that information with them for the rest of their careers. However, this is not the case. After they leave medical school they go through internship and residency where they are again students and have to follow the examples of their new teachers. If these new teachers are ignorant of addiction, then much of what we have taught the students will be lost. That is why I think it is more important to teach the practicing physician. He is no longer a student and, therefore, can implement his teaching without worrying about superiors. He also can pass what has been taught him on to his students. When we teach medical students, we are role models. It is not so much what we say, but what we do.

And that brings me back to the topic. If I can get through my life and enjoy it and obviously have fun and be productive and have a grand, good time without chemicals, then I think I am giving that message to the medical students. If I can't stand my friends without being half bombed, if I can't get through the day without tranquilizers and pep pills, I don't think it matters a great deal what I say to the student. They are pretty astute and they have a pretty good idea of who's stoned and who isn't. I think a lot of them have a pretty good idea of the difference between an occasional joint now and then, an occasional amphetamine perhaps to cram for an exam and a problem of real dependency.

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American Medical Education in Alcohol and Drug Abuse: The State of the Art

Report on a National Survey

Results of the Survey Alex Pokorny, M.D.

I am going to present the results of a survey of U.S. medical and osteopathic schools regarding their substance abuse curriculums. There have been several previous surveys: the 1970 conference sponsored by the National Council on Alcoholism and the 1972 Macy Conference dealing with substance abuse, which included a consideration of alcoholism. I commend these two to you as excellent discussions of the general issues involved. However, these two reports are a little light on the specifics. We have tried to compare our results with theirs, and this is hard to do.

There was also an important position paper put out in 1972 by the AMA Council on Mental Health. A survey of drug abuse education in pharmacy schools was done in 1972; largely because of the availability of that report, we decided to omit pharmacy schools from the present survey.

The background of this survey includes the start of the career teacher program in 1972. In 1974, a task force was set up, largely by NIDA, to reconsider the original objectives of the career teacher program, to see if there were other ways in which we could approach the same goals. This task force chose eight additional activities and one of them was to do a survey of current teaching. We decided to survey schools of medicine, osteopathy, and dentistry; physicians' assistants schools; and nurse practitioner schools regarding their alcoholism and drug abuse curriculums. These seemed to be the drug-handling health professions. Pharmacy should have been added, but was omitted because of the previously mentioned recent survey. In the survey we would seek to determine the amount of teaching, the type, where done, by what methods, et cetera.

We decided on the following samples: 100 percent of medical schools and osteopathy schools, a 25-percent sample of dental schools, and a 50-percent sample of PA and generalist nurse practitioner training programs. The last three will not be dealt with further; from now on I'm going to be talking about the survey of medical and osteopathy schools. In fact, the great bulk of this report will deal with medical schools; toward the end I will comment on the similarities and differences for osteopathy schools.

We first developed a questionnaire using largely the ideas and issues in the Macy Conference and the NCA Conference. We field tested this first version by sending it to three Texas medical schools (not ours); after these were completed, we conferred with the schools, visited them, and determined what the problems were, how true or false a picture this might give, et cetera. We next refined the survey instrument and sent it to the dean of every medical and osteopathy school in the USA. We decided to send it to the dean of each school, to make the procedure comparable, even though we had career teachers in many of the medical schools who could have handled it gracefully.

We decided not to identify the individual schools in our report and just to report totals and averages. By contrast, the pharmacy school survey did identify individual schools; in fact, they printed the individual school replies verbatim in their reports. This procedure probably has an inhibiting influence on answers. We used baseline

data from the AAMC and AMA directories which give rich information on schools, particularly the AAMC directory. Substance abuse is, of course, not a separate department or specialty. The AAMC directory does not give hours or courses in substance abuse.

We later site visited 12 schools. This follows a procedure used in a recent AAMC curriculum study. The site visits were intended to determine the accuracy of the school's questionnaire report. The plan to site visit was also mentioned in the original letter. We think this may have had the effect of making the questionnaires more accurate. John [illegible]yer, the career teacher, did most of the site visits.

We had thought that this survey would be a one-shot thing, but actually we started out in November 1975 and didn't get through until February 1977. We got completion rates of up to 90 percent of medical schools and 100 percent of osteopathy schools. When we separated career teacher schools from the non-career-teacher schools, we were surprised to find that the career teacher schools' completion rate was not much better than that of the non-career-teachers' schools.

For analysis, we decided to group the medical schools in several ways: by section of the country, public or private ownership (40 private schools, 64 public), total enrollment, and size of first-year class. Our findings concerning teaching are reported mainly in two categories: *required* teaching activities in substance abuse and *elective* teaching activities. We decided that these represent two independent things; the required hours represent the school's notion of a minimum level of knowledge, what everybody should know. Since everybody receives this teaching, it makes sense to use averages and speak of the average number of hours. On the other hand, elective teaching activities vary in duration. Many elective courses are reported as "of variable duration" or "as arranged." Furthermore, elective courses are simply offerings, many of which are never taken. It would therefore not make sense to total up these hours and see whether one school's average is higher than the other. We view electives as simply a measure of the richness of the curriculum; electives are more or less for the specialist, for the student who likes an area, is interested in it, and wants to go into it at depth. We therefore report electives simply as total number of courses offered by a school. To repeat, for required activities we report hours, and for elective activities we report courses.

With respect to required substance hours, there are 9 schools which require zero hours, and there are 26 schools in the top bracket which require anywhere from 38 to 126 hours. There is a tremendous variability in schools in terms of what is required.

We initially thought of separating reports of alcoholism teaching from drug abuse teaching. Unfortunately, one or two of the items in our questionnaire were ambiguously worded. We did not note this during our field testing and only later decided that we couldn't reliably assign hours to alcohol or drug abuse. Furthermore, a great many of the courses teach both topic areas simultaneously. Therefore we are reporting substance abuse teaching altogether.

Regarding the number of required courses, substance abuse teaching is scattered broadly through the medical school curriculum. Again, there is great variability. The required hours were tabulated by departments and averaged for all schools reporting. For the basic science departments, pharmacology, of course, teaches by far the most. Next is pathology. The average total teaching in basic science is 7.6 hours. In clinical departments, psychiatry has by far the most teaching, with medicine being second. The average total teaching in clinical departments is 17 hours. The total for all departments is a little over 25 hours; let's say 26 hours. You remember that Dr. Noble said yesterday that there had been a change from some figure to about 70 hours, but I think he was including not only required teaching but also elective courses. Furthermore, he was reporting for the career teachers' schools only.

Regarding the number of elective substance courses, 35 schools had zero courses, whereas 21 have 3 to 10 elective courses. Again, there is a lot of variability.

Since many an elective is never chosen, we asked how many students actually took each elective

during the past year. This turned out to be zero in 4 instances and not reported in 41 instances. On the other hand, 25 courses reported 1 to 4 students; 32 courses reported 5 to 14 students; and 30 courses reported 35 or more students. This seems to be a good signup rate—higher than I would have predicted.

Regarding the percent of the total required curriculum which deals with substance abuse, the range was from zero to 3 percent and the mean was 0.6 percent. If alcoholism alone is the No. 3 health problem, and we are speaking here of all substance abuse, this doesn't seem like a proportionate or appropriate allocation of curriculum time. By summing up the worksheets, we calculated what departments were doing the teaching. Psychiatry was most prominent, pharmacology next, then medicine, pathology, neurology, and then various others.

We next asked about detailed content of courses, by use of a checklist. It was found that the *definitions* and *descriptions* were the items most frequently checked, then medical complications, then treatment, rehabilitation, and so on.

With respect to the division of time between the complications and the basic disorder itself, my impression had been that we teach mostly the complications and not the primary disorder. The results of this questionnaire were rather the opposite; in fact, in over half of the courses the emphasis on the primary disorders was predominant.

We also asked about the teaching methods used. It was found that the good old lecture is still highly in the lead, followed by seminars, hospital clerkships, films or videotapes, demonstrations, outpatient clerkships, field trips, and self-instructional packets.

We also asked about the site or facility in which this teaching was done. The medical school classroom was the most common, followed by the university affiliated hospital, then a community hospital, a community alcohol or drug program, library, learning center, self-help group, and jail, prison, or other correctional facility.

We asked each school how many affiliated clinical programs they had that dealt with substance abuse. The Macy Conference, the NCA Conference, and other groups have emphasized that it is very hard to teach something if you're not doing it. Therefore, one of the big needs in increasing and facilitating teaching in substance abuse is to have an affiliated clinical program. We found that 18 of the reporting schools had no such affiliated program, 41 had 1 or 2, and 31 had 3 or more.

We tried a whole series of cross-tabulations or correlations with various characteristics of medical schools (age, size of class, size of city, ownership, et cetera). In general, the results were negative, which was somewhat disappointing and also surprising to us. I will mention a few positive relationships here, but no relationship was very strong. The age of the medical schools didn't seem to make much difference, even though my notion had been that the recently founded medical schools had much more substance abuse teaching and that old established medical schools had very little.

We also compared the career teacher schools and the non-career-teacher schools; there was a substantial and significant difference in required hours. I believe this difference is real; however, there may be some difference in thoroughness of reporting and how knowledgeable the person answering the questionnaire was regarding what was going on in his school. The career teacher is obviously very well informed about his own medical school.

Regarding the size of the medical school, it appears that the smaller schools tend to have more hours of required teaching than the larger schools, but nothing sensational.

Now, I'd like to mention two representative programs; these schools will remain unidentified. The first is one of the better programs; not the very best but a good program. The substance abuse teaching involves six or seven departments. They have five hospitals with affiliated clinical programs, three of which have two programs each. The introduction to medicine includes 6 hours on substance abuse. The pharmacology course includes 12 hours on substance abuse. The community medicine course includes 2 hours per week with one family, and many, but

not all, of these families have alcohol or drug problems. The pathology course includes substance abuse teaching. The medicine clerkship and teaching has 3 hours on substance abuse. This school also has nine elective courses involving several departments, which range from a few hours to 2 months in duration.

Next I want to describe a school typical of the have-nots, the limited kind of program. The departments involved are only psychiatry, pharmacology, and pathology. No affiliated clinical program is listed. The pharmacology course includes three lectures which deal primarily with the pharmacology of drugs and alcohol and a 40-minute film on overdose. The sophomore psychiatry course includes 1½ hours on substance abuse, and the preventive medicine includes 1 to 4 hours on alcohol and drug dependency. The medical student who goes through this program has low exposure to alcohol and drug abuse.

With regard to osteopathy schools, the findings were generally the same. The average of required hours was slightly higher than for medical schools, but not significantly. The teaching was more concentrated in the preclinical years. Only one of the nine schools had an affiliated substance abuse treatment program, which was a far lower percent than for the medical schools and probably accounts for the different time allocation between the basic science and clinical years.

We made an attempt at comparing the findings from this survey with the NCA report. The NCA Conference in 1970 listed 30 medical schools; each of them had a separate entry in which they said what they were doing. We took our questionnaire reports from those corresponding medical schools and compared them. This was not very feasible because the NCA reports seemed to be more qualitative and we were talking quantitatively. Furthermore, they did not discriminate between electives and required courses. We therefore concluded that we couldn't make a very fair comparison. It did look as if none of the schools listed had regressed, and several seemed to have improved and enriched their programs.

Our general impression is that the amount of substance abuse teaching in medical schools has improved. There is still tremendous variability. Nine schools report no required teaching. Some of these represent our older and most prestigious schools. To qualify this a little, many of these schools place great emphasis on elective and optional tracks, and therefore the lack of strict requirements doesn't necessarily mean that their typical student does not get substance abuse instruction. Nevertheless, if required hours are a measure of minimum standards, there are nine schools with no minimum requirement at all. Twenty-five percent of the schools required 5 or fewer hours. Thirty-eight percent have no electives and 20 percent have no affiliated clinical programs.

We believe that there are three simple things you can look at if you want to quickly size up a medical school's program. First is the number of required hours; second is the number of elective courses; third, whether or not the school has an affiliated clinical program in alcoholism or drug abuse.

My general conclusion is that the overall situation has improved, but we still have a long way to go.

Report on the Site Visits John E. Fryer, M.D.

As part of my career teacher award, I visited medical schools around the country to learn how curriculums were developed, not just in substance abuse but in a variety of areas in the preclinical and clinical years. The medical schools that I visited were chosen in a relatively random fashion.

I have been interested in learning more about the power dynamics that are involved so that perhaps I can develop some ideas that will be useful to those who want to get a particular subject such as substance abuse into the curriculum. I have visited a total of about 20 medical schools. I was surprised by the great variety of medical education which I found on my visits. I was surprised, for example, to find a medical school where there was no psychiatry clerkship required.

I would like to make a few points about the reports that Dr. Pokorny gave. First, it was quite clear [illegible]here would be an hour here or there in the cu[illegible]m that was misinterpreted on the questionnaire reports, but, by and large, only one school grossly misinterpreted on the low side what was actually happening.

I did find, however, that there was at times very poor communication among people involved in substance abuse about what was actually being taught at their school. One of the really striking happenings was being at a very prominent medical school and talking to a very well known researcher in the area of addiction. I asked him, "What do you think about the 6 hours that so-and-so is teaching in the freshman year?" The researcher replied, "Oh, he's not teaching anything in addiction; I teach it all."

Then I repeated, "But this psychiatrist is teaching 6 hours in the freshman year." He insisted, "I'm sorry; he isn't" and very irritably called the psychiatrist on the telephone. The psychiatrist confirmed that he was, in fact, teaching the hours in question. The researcher then said, "What are you doing teaching these hours? This is my field." I think this highlights the fact that there are three areas in substance abuse: the clinicians, the researchers, and the teachers. I think that in substance abuse there is often no communication or little communication among the three areas, a situation that is rarely found in other areas of medicine. In my own medical schools I have to go to lectures given by researchers to really find out what they are teaching or not teaching.

I think the other thing that needs to be commented on is that when we talked about the primary disorder on the questionnaire there was no separation between that which might be considered pharmacology and that which would be considered phenomenology of the disorder of substance abuse. I think most of us are aware of the fact that in our medical schools, particularly in pharmacology departments, the material relating to alcohol or morphine or morphine derivatives, or whatever, is taught as a pharmacological factor, often with very little emphasis on the actual phenomenology of the addicted state.

While attending a lecture in another medical school, I was struck by the fact that although the students were getting a very good lecture about what happens to heroin in the body, they were getting very little information about heroin addiction. Yet that material is included in the primary disorder in this form, and I think that needs to be clarified.

There are still several schools in the United States—and I don't know that these are the ones that Dr. Pokorny was talking about in his group of nine that have no required substance abuse time—such as Harvard, Stanford, and Pennsylvania where the entire curriculum is ostensibly elective. Therefore, nothing is required. I would say from talking to students and faculty in those schools that most of the students are not exposed to addiction at all except in a course in pharmacology or a course in psychiatry. Even that exposure does not occur with regularity.

I guess I came away from my experiences feeling very strongly about the value of a required curriculum, because it seems to me that there

needs to be a baseline beyond which we can add other information for students as needed. This is, of course, a view that is open to discussion.

Another piece of data that I wish to cover relates to the figure that, in the career teacher schools in Dr. Pokorny's survey, 36 hours of substance abuse teaching was the average and in non-career-teacher schools, 19 hours. Some of you may see the report that's been made about the career-teacher program by the CONSAD research organization which says 26 hours were required in career-teacher schools and 4 hours in non-career-teacher schools.

I think that the differences in those figures come about because the CONSAD data were derived from intensive questioning in site visits. When one questions people about what they are actually teaching, one finds that much of the material that is classified as substance abuse teaching on the questionnaire turns out to be more accurately classified as pharmacology rather than as phenomenology of substance abuse.

Finally, it is very striking to me in the area of substance abuse that confusion arises when courses are taught in relatively traditional ways. Frequently very important material about the addictive states is not being taught to medical students in a rigorous fashion.

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The National Board Examinations

Substance Abuse Questions on the National Boards

Introduction: John B. Griffin

During my career teacher grant, I went to the Baylor Career Teacher Training Center. One of the goals that I had for the month I spent there was to develop a pool of questions that would help me in measuring knowledge among the medical students whom I was teaching. As I pursued that goal, it became increasingly clear that other people also were interested in measuring what the students had learned from the things that were presented in substance abuse. Eventually, a committee was formed to develop questions in drug abuse and alcoholism. The history of this committee is outlined in another section. As the committee worked, it seemed desirable to know something about what students over the country as a whole were learning in the field of substance abuse.

We decided to attempt a survey of a significant sample of medical students across the country. In order to do this, we went to the National Board of Medical Examiners to ask for their help in devising the instrument for use in this project.

The National Board of Medical Examiners is an entirely independent body which devises the examination that is most widely used across the country by medical schools to measure the quality of their students' performance. In almost all States, passing the national board examination is a criterion for licensure. The questions for the examination from the National Board of Medical Examiners are devised by committees working within the national board framework. These committees, by and large, reflect departments within medical schools; that is, there is a committee on anatomy, a committee on biochemistry, a committee on psychiatry, one on internal medicine, et cetera. If a subject area has distinct representation in the faculty of medical schools, then it is likely to have an equivalent committee on the National Board of Medical Examiners.

One of the problems for the field of drug abuse and alcoholism is that medical schools rarely, if ever, have a department of substance abuse. In keeping with this, the National Board of Medical Examiners does not have a committee specifically assigned to this area. Clearly, we hope that our committee's work with the National Board of Medical Examiners will stimulate increased consideration of substance abuse questions on the national board examination. I must emphasize that there has been no arrangement or guarantee of any specific numbers of questions on substance abuse to be placed on the examination. This would be totally out of character for the board and would be contrary to the framework in which they operate. The National Board of Medical Examiners attempts to reflect what is being taught and not to influence the direction of medical education.

I believe that as a result of our work with them, the board is probably more aware of the expansion of teaching in substance abuse over the country that has occurred in the last 5 years, in large part through the career teacher effort. Since the national board tends to reflect changes

in curriculum, increased curriculum time usually leads to increased numbers of questions on the national board examination.

Our committee has learned a great deal about how to write questions and how to put them in the correct form for the national board. We are given the opportunity to submit possible questions to the national board committees for their consideration each year. These questions should have a better chance of acceptance because we have learned how to construct them properly.

We are constructing some examination modules dealing with substance abuse, some of which will be used in the research project to evaluate medical students' knowledge in the area. Some of the modules may be incorporated in a later qualifying and certifying examination that the National Board of Medical Examiners is in the process of considering at this time, as Dr. Smith will now elaborate.

Report on Substance Abuse Questions on the National Boards

David Smith, M.D.

I particularly appreciate your addressing an issue that was, frankly, of concern to me when I came down yesterday and gave some thought to the exact wording of the title that you find in the program before us.

The National Board of Medical Examiners, as you have so nicely emphasized, is an independent, voluntary, nonprofit, educational institution that is much involved in the process of certification examinations that are, in turn, used to give feedback to faculties regarding performance of certain types of students on certain subjects.

We were very flattered in the last several months when Dr. Ted Cooper made some comments about the perception of the national board in Washington and within the American educational scene. He described this perception as one of neutrality and impartiality. I think that his being able to say it this way was one of the finest attainments of the goals of the national board that we could imagine, because we would like to be, and try hard to be, an impartial measuring body particularly slanted toward medicine.

Our particular orientation toward medicine makes us different from many other testing organizations. We are a politically neutral entity. This becomes interesting and complicated at times. For instance, some of you may know that suddenly last fall we found ourselves mentioned in the law that has to do with the return of American citizens who are in foreign medical schools and want to transfer to advanced standing in American medical schools—the so-called "Guadalajara" clause of Public Law 94-484.

We were, in a similarly involuntary manner, involved in the qualification of all alien physicians who want to come to this country by way of either a J visa or an immigration visa.

It is quite a story as to how we responded to these situations as a public obligation and, at the same time, have tried to maintain our position as a voluntary neutral body. This is part of the background of why we sometimes may seem to be overly sensitive to accusations that we are dictating curriculum or are shaping American medical education instead of following and reflecting it.

It is obvious that I cannot deny that the National Board of Medical Examiners has some effect on

teaching. We all know that these are the realities of life, but the national board has no intentional effect. I also cannot deny that I am aware of people with whom I have worked in your organization who would like very much to encourage and emphasize teaching of alcohol and drug abuse by means of incorporation in the national board examination, as well as other means. There was a frank recognition that this was a hidden agenda item, and I think it has had its influence in a salutary manner.

Yesterday Dr. Gordon Deckert, from Oklahoma City, spoke on several subjects rather forcefully. Gordon has been the chairman of the Psychiatry Test Committee of the board, and he gave me a spontaneous testimony that I'll pass on to you. During the 7 years that he has worked with the Psychiatry Test Committee he feels that there has been a very significant increase in the attention that has been given to drug and substance abuse by that committee. I can attest to you that the pharmacology committee, the behavioral science committee, and several others have similarly shown a greater interest in this area.

You will be right if you tell your students that the national board examinations do contain items on substance abuse and that they are going to be held responsible for their education in this area. The important thing is that you are teaching the subject. It is then reflected by your representatives on the test committees of the national board. There are about 120 such individuals on the board test committees, representing over half of the medical schools at any one time. It is through these individuals that questions are developed for the national board.

I was interested yesterday to hear Dr. Noble make a reference in which I believe that he congratulated you for obtaining an entry to the national qualifying examination. The national qualifiifying examination reminds me of what we call our comprehensive qualifying examination. That introduces the explanation I would like to give you of the so-called national board project.

As Dr. Griffin has pointed out, there was an interest for several years among the career teachers in devising a test item library for educational and evaluation purposes. They came to us to see if we had interests and facilities that would enable them to forward their goals.

They arrived at about the time that I had assumed some responsibility for beginning to respond to the challenge of the report of our Goals and Priorities Committee of the board which was issued over 5 years ago. The challenge was to create an examination with more emphasis on performance, skills, and abilities, in addition to the emphasis that we have always placed on measuring knowledge. It was pointed out by this committee that with the variety of curricular changes that seem to be occurring in the American medical educational scene, probably the only appropriate time to test all medical students is at the time that they are ready to get their M.D. degree, after they have finished the varied curricular patterns of their own medical schools.

This was at first, you may remember, called the qualifying A examination, and it was attached to several other political implications; for instance, there was the postulation that it might be a logical progression for there to be a two-phase licensing examination, a qualifying A and a qualifying B. People who had graduated from medical school would be required by qualifying A to show that they were ready to assume their responsibility for the care of patients under supervision, but they would not obtain full licensure until after they had reached the end of their training, which for nearly all consists of specialty certification. That would be called the qualifying B stage.

I suspect many of you experienced some of the discomfitures that rolled out of that concept, and I will not go any further into it except to say that when we tried to see if we could meet the challenges in just the testing area, we decided to divest ourselves of the term "qualifying A" and think of something else. That is why we call it the Comprehensive Qualifying Evaluation Program.

We had a committee which directed us to several lines of thought, one of which is to create this examination in a problem-oriented medical framework with the idea that one might be able to do this by developing several modules. Each module concerns a particular problem. In this

format the student is asked to go through certain kinds of problems in a described medical situation.

The next question is, What problems do you use for such a test? We will approach this in several ways to try to identify the most appropriate problems that will be challenges for the young physician in his first year of graduate training. It seems to me quite logical that drug and alcohol abuse would be one of these problems. Consequently, when there was this coincidence of our interests and those of the career teachers, we were glad to work with them. We have profited greatly as the committee has worked to develop four modules on several different situations of acute drug toxicity, chronic drug abuse, chronic alcoholism, et cetera.

I would like to emphasize that the general approach is to try to have the measures that will be derived from this examination expressed in terms of tasks or responsibilities of the young physician. These would include the following: his responsibility to be proficient in the collection of data; his responsibility to be able to analyze situations and to find problems; his judgment and responsibility in relation to the role of a physician in the course of following a patient; his judgment and skill in treatment techniques; his responsibility for maintenance of health care; and his attitudes and responsibility to the community and to the profession.

We have no guarantee that we will be able significantly to measure these particular things, but what we have done is to create the situations, describe them, and then create problems and test items with these different dimensions in mind. This is in contrast to the usual subject dimensions which you have seen on the classic examinations. Such an approach does not yield a subscore in anatomy versus one in pharmacology. It is hoped that this will yield an overall score that we can correlate with achievement and competence. It will still be much more knowledge oriented and less performance oriented than we might like, simply because the techniques for obtaining valid and reliable measures for some of these other areas are not so readily available as are the techniques for measuring knowledge.

The committee has met with us, and we have hammered out these four separate problems. The problems are in the process of being printed as booklets and will be available for administration to students. We would like to be able to administer them to different kinds of students, particularly to groups of students who have not experienced instruction in the areas of alcohol and drug abuse in contrast to other students who are more experienced.

Probably these two rather diffuse groups are sufficient for standardizing these tests. However, there are many variations on the theme. For example, it might be very interesting to be able to analyze the difference between a student who comes to medical school with an urban experience in his early education and one whose experience is less urban; minority groups of medical students versus other groups would be interesting variations to study. We cannot promise that sort of thing, but if the project goes well and we can see these evaluation instruments used over a period of time, it might be that this organization can approach such a determination through a measure such as this.

The principal thing that is ahead of us now, though, is to let this instrument be used first as an educational encouragement in your programs and in your schools and to give you some feedback and information regarding the achievements of your students as expressed in this examination. It may be possible to give comparisons between your school and your program and other schools and other programs. These, of course, were some of the goals of the career-teacher committee as they formulated these problems and wrote the questions.

Our next task is to begin to arrange the administration of these examinations. We hope to enlist voluntary cooperation from persons at various schools who can find a significant group of students, larger than 20 in number, in either of these categories: those not yet instructed versus those that have been instructed. Some schools, we hope, will be able to give samples of both kinds of individuals. We can give this test to you to be administered at your convenience. We will give you some ground rules, but we will not be as

rigid as we are in the real national board examination nor will the students be under all the pressure that I think they are at the time that they take the national board examination. We would probably supply a biographical data sheet that we would ask students to fill out with their questions so that we can categorize them to derive standard groups for normative comparisons in calibrating this examination. We will work out from the beginning some form of feedback to you, but the very first people who participate in the course will really be the foundations of the standard setting, and scores will not be as meaningful at that time in a normative sense as they will be later. From the beginning we can report to you rough scores in group categories of one interest or another. Later, after we had more experience, we could report to you what your normative scores were.

This is the projection for the next months as administration of the tests gets underway. I am here to explain to you the enthusiasm which we have for this project, the appreciation we have for the input that the committee gave, and what we have learned about the dynamics of bringing in a group with this particular kind of interest to forge an examination.

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Educational Activities of the Career Teachers

Moderator: Joseph Schoolar, M.D., Ph.D.

In its original concept, as it was formulated by the National Institute on Alcohol Abuse and Alcoholism and the National Institute on Drug Abuse, the career teacher program was designed for the senior faculty of medical schools. It was intended primarily to spread the word about substance abuse—drug abuse and alcoholism—to medical students. The hope was to make substance abuse education an integrated, effective part of the curriculum in medical schools throughout the United States. We expected some significant impact on the service programs of the university, because the medical school serves as the focal point of many service programs and influences the programs of affiliated agencies and institutions in its area and, in many cases, the entire State. In research the medical school has an equally important impact on substance abuse, in both basic and applied research.

This was the original concept of the career teacher training program. Forty-three career teachers have been named and they are either in the training program or have finished their 3-year award period. Two career teacher centers were established to assist in the training, one at State University of New York Downstate Medical Center and one at Baylor College of Medicine.

In a large measure our objectives have been or are being realized. One has only to look at the record of the program's accomplishments from the standpoint of changes in curriculum content, the increased number of curriculum hours, and more accepting attitudes by medical students and by practicing physicians, as examples.

In addition to changes in curriculum content, the career teachers have contributed to the design of teaching materials and have developed innovative approaches to teaching drug abuse and alcoholism courses in medical schools. The impetus has spread to continuing education and to the production of films and teaching tapes.

Dr. George Tyner exemplifies the best in innovative career teachers: He divided his grant into four parts, so that not only did he participate in the career teacher program but so did Dr. Arredondo, Dr. Weddige, and Dr. Orene Petticord, all of the Texas Tech faculty. Instead of having one career teacher, they have had four at Texas Tech.

A Dean's Perspective George S. Tyner, M.D.

I will address two topics. First, can a career teacher be effective as a dean? Second, how does one develop a team model for teaching substance abuse?

With regard to the first issue, we rank fairly high in the number of hours devoted to substance abuse teaching—106 hours. That figure was derived from the 1974-75 academic year, which was the year I first became dean. We had already managed to scrounge 106 hours in the 4-year curriculum—so it was not necessary to be dean to get an adequate amount of time.

On the other hand, I began to think of what I had done in the way of recruitment. Our school has leaned toward faculty who have an interest in substance abuse. I wondered what kind of pressure the chairmen feel I had exerted on them to make them insert alcholism and drug abuse in their curriculum. I talked to some of the chairmen about this. The chairman of medicine, who is an honest man and a good friend, said, "No, you haven't exerted pressure on any one of us. However, I think we'd be crazy, knowing that you have a career teacher award in alcoholism and a real interest in that area, not to consider including that subject in our curriculum. So you answer the question for yourself."

The way we achieved the number of hours we have was done primarily by happenstance; and a little by planned infiltration of the departments. The happenstance was that our school was brought on line in June of 1971, and we took our first students in the fall of 1972. There were six of us who came to Texas Tech in June of 1971 and were told to put a curriculum together for two classes beginning a year later.

By August we had 8 people and by the following August we had around 40 people, and we had curricular time to burn. With the help of the chairman of psychiatry at that time, we began to fill up a lot of little spaces along the line. We visited each basic science department and said, "Could we or could you devote some time in your curriculum to alcoholism and drug abuse?" With this initiative the basic science departments began to teach a fair amount of information about substance abuse.

In the clinical area we developed small group conference teaching. There were two types. The first was coordination of the hard data. We found people who had an interest in alcoholism, and they volunteered to put on small group discussion for the junior students. Included were a toxicologist, a pathologist, a biochemist, a specialist in preventive medicine, and one or two others. They began a seminar which was repeated for each clinical clerk group as they rotated in their 8-week shifts in the five major specialities representing the junior year.

In addition to the hard-data seminar, we organized a group which talked about the disease concept and the behavioral patterns of alcoholism as far as the patient was concerned. This group consisted of a lawyer, a priest, an internist, a family practitioner, a doctor of education, a psychiatrist, and myself. Both approaches illustrate how our school is forcing the departments to decrease the number of lecture hours and increase small group discussions. We feel that we can teach more effectively with faculty teams.

Another teaching device became available by accident. We had invested $500,000 in television hardware. As dean, I was despondent over this big expenditure because nobody used it. So we began to give our seminars in the television studio. Now we have quite a library of all of our discussions with the students. Faculty can go back and compare what we've been able to do over a period of 3 or 4 years.

In retrospect, I didn't plan to be either a dean or a career teacher. When the career teacher program came out in 1971, I developed a grant appli-

cation. At about the same time our first dean quit, I didn't put in an application for the job. I received the career teacher award in the summer or the fall of 1974 and 2 days later I was offered the job as dean. The next career teacher meeting was in Louisville. Jim Callahan advised me not to turn the grant back, and I began to remember that we had two or three interested faculty members. We began to talk about starting a team because I simply didn't have time to do more than front for the program.

That's how the team concept got started. We've had a lot of support and encouragement, especially from Joe Schoolar and Alex Pokorny at Baylor. At least three of us have gone there to participate in the teaching program as students.

The program has gradually grown. Some of the methods that we used to infiltrate the curriculum might be of help in other schools. On the basis of our experience, I think the technique of infiltration is a good one.

There are other ways in which the curriculum can be infiltrated. The career teacher who is a loner in a school has to go around and make friends among the faculty and have an interest in substance abuse. He can then recruit these friends and they can put on the course together.

No dean can sit down and delineate curriculum hours. I think it has to be an interdepartmental relationship based on acquaintance and a similarity of interest.

Another thing that has helped us as a team is that we make ourselves available to talk to anybody. All you have to do is ask us and we'll be there. In this way we have achieved a fair amount of visibility. We will talk to the county medical society, to the Boy Scouts, to the parent-teacher association, in short, to anybody who will listen to us. We don't reserve all our energies for teaching at the undergraduate level.

Let me give you another example. We wanted to teach residents, but nobody who had residents wanted to bother with us. Our school has about 103 residents, with about 75 or 80 in family practice.

As dean, because of my interest in substance abuse, I began to keep track of how much Valium, Quaalude, and Librium was prescribed. The amount was outstanding, with the great prescribers being the family practice residents.

The chairman of family practice and I met to discuss this production of iatrogenic disease. He was as uninformed about alcoholism and drug abuse as the junior medical students, so he invited me to bring the team in to talk to the house staff in Lubbock. We gave our presentation to some freshmen, sophomores, seniors, family practice residents, and some of the faculty. I think we made a fairly good impression, but it really wasn't until one of the family practice residents, after that talk, discontinued Valium and convulsed in the emergency room that we really got a strong stand in the department of family practice.

Another example occurred when a student asked me if I would get more time in the freshman and in the sophomore year to teach about alcoholism and drug abuse. She was greatly concerned that about 10 percent of our students have to repeat or fail. For about half of those students, I can identify a direct relationship between failure and the use of alcohol or soft drugs. At least 5 percent of our students are identified as getting into trouble, usually with Valium, sometimes with barbiturates, and sometimes with a smorgasbord plus a little alcohol. This experience illustrates another means of getting into the curriculum without using any inducement from the dean, and that is that the students have asked for it.

Another way to develop interest is to become involved with other parts of the parent university. We're now becoming involved with the departments of psychology, sociology, and nutrition on the main campus. In this way a cadre of interested perople is being developed throughout the university.

Last but not least is informal discussion with medical students. Those are times to capitalize on the fact that you are talking to a group of people who are entering into a profession which has an occupational disease. And that occupational disease is what we're talking about.

Data on Student Attitudes — John N. Chappel, M.D.

My career teacher grant marked the beginning of my intensive involvement in medical education. I had been at the University of Chicago for 6 years prior to that time, but my involvement in the curriculum was at best peripheral. We had elective time and a half-day with the first year students in community health. A few curious students came to our programs, but there was minimal impact. An additional frustration was the difficulty we experienced getting physicians involved in the treatment of the heroin and alcohol addicts we were seeing.

It was from this context that I went to my first career teacher meeting at Louisville. At that meeting a revolt was in process against old, traditional educational methods. There was also a spirited discussion on educational priorities. The priority emphasized was to find some way to influence attitudes. That emphasis was so congenial to my own experience and to my academic beliefs that I became very enthusiastic. Since then I have devoted most of my time to work on medical student and physician attitudes. The video tapes you saw yesterday are part of that work.

Later, at the Savannah meeting, Ben Kissin, who has had a catalytic effect on us, suggested that we set up a committee to develop a Standardized Test of Attitudes and Knowledge (STAK). A committee was formed which developed a broad spectrum of attitudinal statements. These were given to the career teachers at the Portland meeting. Ron Krug utilized his statistical and computer skills to factor-analyze these statements. We then developed the form of STAK which was used with medical students in Oklahoma and Nevada. The current form is included with the article on attitudes.

The attitude survey as it now stands appears to be statistically sound and acceptable to both medical students and physicians. Time of administration is 15 to 20 minutes, so it can be easily used in most settings. Further investigation is needed to determine what relationship the attitudinal factors have to clinical behavior with alcohol- or drug-abusing patients. Ronald Krug will describe our current findings.

Current Findings on Student Attitudes — Ronald S. Krug, Ph.D.

John Chappel mentioned the fact that this is a statistically sound instrument. Well, statistics are phenomena like lampposts, which some people in states of inebriation use for support rather than for enlightenment. The statistics that we are reporting are intended for enlightenment rather than for support of some theory.

The scoring system used in STAK was developed from a reasonably large data base. The initial

factor analysis used the career teachers as a reference group. We examined both orthogonal and oblique rotations. The oblique rotation was used because it revealed a treatment factor which was of major interest to us. Six factors were obtained. These factors were used to form a scoring system.

The first factor was a moralistic factor. Items characteristic of this factor are, "Clergymen should not drink in public" and "A physician who has become addicted to narcotics should never be allowed to practice medicine again." This factor represents a restrictive, pessimistic, moralistic attitude to substance abuse.

The second factor was a permissiveness factor. Items that load heavily on this particular factor are, "Alcohol is a good substance if not used to excess," "Daily use of one marijuana cigarette has a beneficial effect," and so forth. This factor represents a permissive attitude toward using substances.

The third factor was a treatment factor. The items that load heavily here include "Drug addicts can be rehabilitated," "Drug addiction is an illness," and "Group therapy is an essential part of treatment of alcoholism or drug addiction."

The fourth factor was a factor of restrictiveness in both use and treatment. The restrictiveness loads most heavily on this particular score. Items such as "Marijuana leads to mental illness," "People should get drunk only at home," and "Chronic alcoholics who refuse treatment should be legally committed to long-term treatment" characterize this factor.

The fifth factor was of drug use phobia. Items such as "Heroin use leads to addiction," "Weekend users of drugs will progress on to drug abuse," and others represented a view that drugs are very dangerous.

The sixth factor is a myth-oriented factor. Many of the myths about substance abuse load highly on this factor. Typical items include "Drug abuse is caused by a character weakness," "People who use psychedelic drugs are basically mentally ill," and "Anybody who has long hair and a beard probably uses illegal drugs."

We gave the revised questionnaire to our students before starting our teaching on substance abuse. Then, after the teaching was completed, we repeated the administration of the questionnaire.

There is a difference between the two medical schools in that the University of Nevada uses a block system which puts 28 hours of substance abuse teaching in 1 week. The University of Oklahoma uses a spaced type of curriculum in which many disciplines are teaching at the same time. My course consists of 16 hours spread over a 4½-week period. So we have a compressed curriculum compared with a stretched curriculum.

In both courses the students go to AA meetings to become familiar with community treatment resources. The Nevada students make one AA visit with a sponsor. The Oklahoma students are assigned sponsors who contact each student, take them home for dinner, then to an open meeting, and finally to a closed meeting. This gives them a wider experience with AA.

T-tests compare prescores and postscores on the six factors. The factors on which we were able to demonstrate significant movement on student attitudes were the first, third, and fifth factors.

On the first factor, using combined data from the two schools, we were able to significantly decrease the moralistic stance of students toward substance abuse.

We were particularly pleased with the response on the treatment factor. The students moved to a more positive view of substance abuse as an illness which can be treated and not something to be ignored.

On factor 5 we have significantly decreased the phobic response to drugs and to drug use.

There were some interesting differences between the students from the two schools. On factor 2 the Nevada students moved to a more permissive stance toward substance use. The Oklahoma students decreased in permissiveness, but both groups ended up at the same point. It therefore appears that we were dealing with two groups of students who started from different levels of permissiveness, and moved to a common position.

On factor 6 the Oklahoma students decreased their myth orientation to drugs and substance abuse, while the Nevada students showed little change.

As teachers, our goals are somewhat different. John Chappel wants his students to see substance abuse patients as human beings with problems which can be treated. He works from an optimistic orientation toward treatment. While I share the second goal, I have articulated the first one a little differently. My goal is to get the students to see substance abuse as simply a phenomenon which has no positive or negative value judgments to be made about it.

In conclusion, we now have an instrument that we can use in different settings to assess changes in student attitudes. We can set attitudinal goals and measure the degree of success or failure in meeting these goals. If we do not measure, we will remain ignorant, or at best impressionistic about how well we have achieved our teaching goals in the attitudinal domain. With the data obtained in this study we can now look more carefully at our curriculums with an eye to redesigning them in specific directions in keeping with our attitudinal goals.

Old Dogs and New Tricks John E. Fryer, M.D.

We inevitably move into the issue of how the medical school makes decisions. I did not realize when I started this just how naive I was about the system of governance in medical schools. I did not know, for example, that in 18 of the 20 medical schools that I visited the same pattern of governance holds, i.e., no matter what else one claims, the dean really is not a person of much power. Also, he uses the power he does have sparingly.

In most instances, the history of the medical schools, particularly those that were in existence before 1930, goes something like this: A group of department chairmen got together in the teens, the twenties, in 1970 or whenever, decided to form a medical school, and hire a dean. But they chose that dean. Now in the twenties and thirties there was a period in which some medical schools found themselves with a single person who was the dean and powerhouse, who ran the medical school almost singlehandedly. At Temple Medical School, where I teach, there was a Dean Parkinson who literally was the chief of the hospital, dean of the medical school, vice president for health sciences, and chairman of the admissions committee. For a period of about 25 years, every person that went to the medical school was interviewed by Dean Parkinson. When Dean Parkinson died, and we entered into the era of the forties and fifties, it became quite clear that power had returned to the department chairmen, and that nothing happened in the medical school about which the department chairmen did not approve. This was true in 18 of the 20 facilities. When the question was asked about who can veto a decision about interdisciplinary teaching most effectively and most totally, in every medical school except two, it was the department chairmen acting as a group.

In one medical school there was a faculty senate which was elected in which people did respond, and in one medical school there was a dean whom I really believe had some power simply because the department chairmen did not care about anything; and he was the one who ran the medical school.

In short, it has become apparent that any decision that involves bringing new material into the curriculum—new interdisciplinary material in particular—requires negotiation at the departmental chairman level and needs the assent of all of those people or else the dean cannot enforce it.

When we talk about getting to the dean and making the dean do these things, we should know that while the dean does have some clout, he is not necessarily going to use it on this issue. Getting to the dean is almost an irrelevancy; the issue is strong communication with the department chairmen, making them realize this is important.

The next step, then, is to ask how we can make an impact on these men or women who are department chairpersons. The way to make an impact, it seems clear, is through an individual within that medical school department who is committed and willing to do the teaching, who does it well, and who will follow through on it. I would submit to you that nothing gets done unless there is that person. Particularly when we are dealing with subjects that are not necessarily part of the usual medical school curriculum such as alcoholism, addiction, pain management, death and dying, cancer treatment, et cetera, there need to be people who get into the curriculum who are teaching the material that they want to teach and which they feel should be taught. Those medical schools in which there was not such a person generally did not have that material being taught.

The really tricky subsequent issue has to do with what happens beyond the initial impetus on the part of one person to get that material into the curriculum. How does it get permanently into the curriculum? Let me just submit that, although I hear of a lot of hand wringing about this, I now have seen many instances in which materials have been brought into the curriculum, and then the medical school chairpersons have decided that that material was valuable enough to keep in; and it stayed in.

In summary, deans have little real power. The chairpersons have the power and will not give it up easily. Curricular change must be carefully crafted by individuals who have an interest and who can teach. More often than not, changes rise and fall on the basis of the presence or absence of this interested faculty member, although changes can sometimes become a permanent part of the curriculum.

Some strategies seem to me to be emerging. One principle that was mentioned this morning should be repeated: and that is that just because people can do research or can do clinical work with alcoholics and drug addicts, it does not necessarily follow that they can teach. I think this is an important thing to keep in mind.

It seems to me that career teachers as a group have developed many very effective strategies for generating some lasting improvements in the curriculums of individual medical schools.

I think I would differ a bit with Mansell Pattison's comment that it is essential to focus on the residents. It seems to me that we have a whole process involving preclinical and clinical students, residents, and continuing education, in which we have to continue to hammer: and we have to continue to hammer in a variety of ways. We should be dealing continually with not just making more sensitive humanistic medical students, but also with influencing some very, very critical specific attitudes. These are attitudes toward the care of chronic illness. Ninety percent of the care given by most physicians is for a chronic illness problem, and we learned nothing in medical school about chronic illness. Continuity of care, comprehensiveness of care, and attitudes toward substance abusers fall under the same attitudinal umbrella.

On the other side is the whole issue of knowledge in the area of substance abuse; and certainly the third crucial area is skills.

What kind of Pollyanna then have the career teachers offered? Certainly something that most of the career teachers have done early is develop elective courses. These are variably accepted or not accepted by the students. But from elective courses, a lot of general course material ultimately grows. I feel that it is important to do elective courses in their own right as well as to get students interested early. Some people have done excellent courses. The danger of one's develop-

ing elective courses is that, when that person is gone, nothing else happens.

Another tactic many of the career teachers have used is to assist the basic science departments, assist those chairpersons in doing their job better so that the students are more responsive.

I was struck when I first went to my medical school by the fact that biochemistry had a 3-hour clinical correlation in alcoholism, and I thought how wonderful it was that we had 3 hours of clinical correlation. So I put on my white coat, went across the street, and sat in the back of the room; and who was doing the clinical correlation? It was the surgeon in the hospital who treats all the esophegeal varices. The attitude conveyed was that every alcoholic is going to have esophageal varices, he is going to be bleeding to death, and he will tend to drink again as soon as he gets out. I went down front and said, "You're teaching the wrong kind of alcoholism and you're conveying to freshmen medical students wrong attitudes; can't we do it a little differently?" Fortunately, he saw the light and changed, because all he wanted was for them to learn what happens to esophageal varices and to the various enzymes, and to the liver so that he could teach biochemistry a little better. He did not really care if he had good patients or bad patients.

Another tactic which some people have been using is to become involved in behavioral science interdisciplinary courses in the first 2 years. I would simply reiterate that this has to be done through the department chairmen and through the regular departmental route. I think this is ultimately the most successful route. I am fortunate enough in my own medical school to have a 102-hour course called primary care concepts in which I can work on chronic disease issues, using alcoholism as a model of continuity of care. I am able to bring in alcoholics, and it works very well. The same thing can be done in behavioral sciences.

Beyond the medical student level, much that is innovative has been done in substance abuse education. The career teachers have invested a great deal of energy in residency programs. At Temple, we are now in the process of convening a committee made up of a vice president of the university and eight faculty members to deal with alcoholism in the faculty. We have 4,000 faculty members at Temple, and we calculate that there are probably 300 to 400 alcoholics or other substance abusers among them. To date we have not found other schools, and I would be interested in knowing of any, who have developed such a faculty program. We have added a program into the faculty handbook and are now in the process of educating the senior faculty about how to make use of that program. We have identified close to 50 alcoholics, and they are all in various stages of treatment. There is a tremendous need. I simply would conclude that one of the other strategies that people can use is to work with people who are faculty members.

Finally, I would like to say publicly that I am deeply grateful for what I have learned from all my fellow career teachers. It has been enormously valuable and one of the greatest influences on my life in the last few years and on my teaching.

Earlier today we were talking about the career teacher program in psychiatry in the 1960s. In that program, not much emphasis was put on how to go about teaching. That could never be said about this program. There has been an emphasis on how you go about teaching and how you become involved with the planning and administration of courses and getting them into a curriculum from the very beginning; that is addressing a truly critical issue.

Biobehavioral Studies in Substance Abuse

Thomas J. Crowley, M.D.

A number of the career teachers, in addition to teaching, also do scholarly research. I will discuss my own current research as an example of the role of research in the career of a teacher in substance abuse. The only way that I can reasonably organize that is to present it like a newspaper. First, I am going to give you the news, and then I am going to give you a brief editorial. I'll tell you when I am turning the page to the editorial.

My research concerns drug effect on social behavior and motility in animals and man. For a number of years I have been studying, together with colleagues at Colorado, drug effects on the social and motor behavior of monkeys living in pens in social groups. With these animals we could count the frequency of a variety of different social behaviors: dominant behaviors, sexual behaviors, associative behaviors, and so forth.

We also measured the operant work of these animals for food, and in addition we could quantitate the movements of the animals. The monkeys wore backpacks containing radiotelemetry units, which provided us with information about how much the animals moved around. We then administered drugs, looking for drug effects on various behaviors. We have studied ethanol, methamphetamine, pentobarbital, and morphine (1), methadone (2, 3), and two brain peptides, TRH and melanocyte-stimulating-hormone-release-inhibiting factor (4, 5).

As an example, in the methadone study (2), we gave monkeys daily oral Tang (a fruit-flavored drink) for 6 weeks, and then for 10 weeks they received Tang containing methadone each day in doses which produced blood levels comparable to those seen in methadone maintenance clinics; then for 3 weeks we withdrew the methadone and again gave the Tang alone.

When we gave methadone to these animals in the morning we saw a very considerable increase in motility for several hours after each dose. Later in the day, motility declined below baseline levels.

We were hopeful that we could repeat that study of methadone administration in man. However, there is a problem: the activity counted in methadone-treated monkeys is meaningful only in comparison to the drug-free, baseline motility of the same subjects, and our methadone patients do not give us drug-free, baseline data. They transfer directly from street heroin to methadone, and so we weren't able to replicate that study in man.

However, LAAM (acetylmethadol) is a long-acting, methadone-like drug which is given, not every 24 hours as is the case with methadone, but every 48 hours. We hypothesized that if man is stimulated for several hours following the administration of methadone-like drugs (as had occurred in our monkeys), then when LAAM is given every 48 hours, perhaps we would see a greater amount of motility on the day off. Briefly stated, we predicted that activity in LAAM-treated patients would increase on the day of LAAM administration, when compared to the day off. So we set out to study circadian rhythms of motility in former heroin addicts who were maintained on LAAM as outpatients.

The technique was one that we borrowed from the National Institute of Mental Health (6); researchers there generously loaned us a device for measuring motility in human beings, and we've since produced similar units of our own. These "actometers," worn on the shoulder, measure how much a subject moves around. Physical movement generates electrical pulses within the actometer. It has a timer, and it counts up these electrical signals for a period of 15 minutes and then stores those counts in a self-contained computer memory chip. It then counts for the next 15 minutes, stores up that information, counts for the next 15 minutes, stores that,

and so forth. The actometer continues this counting for up to 64 hours.

We have recorded 12 patients treated with LAAM every other day, and 5 treated with methadone every day; all records covered 48 consecutive hours. The LAAM patients, on the average, were about 50 percent more active on the day of LAAM administration than on the day off, a very significant difference. For the methadone patients, comparing one day against the other showed no difference in activity.

The results seem to be compatible with our hypothesis that there might be a relative stimulation early in the interval between LAAM doses, and a relative depression in motility later in the same interval. Now, clearly, the actometer measures only the quantity of movement, not its quality. I have no idea whether these patients are more alert and more productive on the day of LAAM administration, or whether that increase in motility is mere random hyperactivity. That would appear to be an important point to be addressed in later research.

If these findings can be confirmed, they would suggest that when we put patients on every-other-day LAAM, we put them on a kind of behavioral roller coaster, in which their output of behavior varies by as much as 50 percent every other day. That kind of subtle behavioral toxicity from a drug could have significant and profound effects on one's life over a period of time. These data may suggest some adverse effect from every-other-day LAAM administration; such data certainly would have to be considered when decisions are made about whether to replace methadone with LAAM.

That ends the news. Now comes the editorial, which may or may not be connected to the news.

I am interested in doing a certain amount of research as part of my activities as a career teacher: I feel that it contributes to my teaching ability. I also think that having some kind of scholarship behind me gives me some credibility with faculty colleagues where I do my teaching.

In organizing the career teacher program, NIDA and NIAAA will continue, I hope, to recognize that researchers tend to publish, and that those who publish tend to stay at universities and to get tenure there. Thus, investment in a researcher may bear long-term interest for teaching, interest that might not be available in the case of some nonpublishing faculty members. Accordingly, perhaps one goal for the career teacher program should be to include within the career teacher group some academicians who do research, with the purpose of helping good researchers become better teachers in the field of substance abuse.

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AA and the Physician Kenneth Williams, M.D.

I am an internist teaching in a department of psychiatry, and I spend about half my time working with alcoholic patients and their families.

I have been fairly active in trying to educate the primary care physician about alcoholism. It is a great idea: Go out to the doctor who is already practicing primary care, give him a few skills regarding diagnosis of alcoholism and what he can do to treat it, and then presumably we shall get many more people being treated for alcoholism. Unfortunately, I am not really sure it can be done. I know it cannot be done easily. We talked in our small groups this morning about many of the problems, even trying to recruit primary care physicians to come to a conference to hear about alcoholism.

What I try to do in my activities in this regard is to beat down a few more common misconceptions about alcoholism, educate physicians about diagnosis, show them how to use Antabuse, and how to refer to AA.

The film on Alcoholics Anonymous tries to give doctors visible proof that something can be done for the alcoholic patient. Many health care professionals have never seen a recovering alcoholic. I had not until I had been a physician for 10 years. I think the attitude that one gets seeing people only in the active phase of their illness can be a very discouraging one. Yet at a university hospital—in fact most hospitals—what one sees is people in the active phase of their illness coming back to the hospital again and again. I hadn't seen anybody recovering from alcoholism until I went to an AA meeting.

When I speak to a group of health care professionals, I often try to bring an AA member with me as living proof that something can be done, that people can recover. The film is a way of bringing a lot of AA members with me at one time to impact upon the physicians to say "yes, something can be done."

What the film does for health care professionals can be summarized as follows: (1) It shows them that recovery from alcoholism can occur, by showing examples. (2) It educates the health care professional regarding Alcoholics Anonymous (by answering many misconceptions about AA). (3) The film gives something of the flavor of an AA meeting and shows that many different types of people can benefit by referral to AA. (4) It shows the health care professional with a drinking problem (who might be in the audience, and I think we should assume that somewhere between 10 and 12 percent of the audience will have an active drinking problem at the time) where he might obtain help—in the film there are two physicians and one nurse who are members of AA. (5) The film highlights problems that can occur when a doctor prescribes mind-altering medicines for an alcoholic. In my experience this is the most difficult area about which to educate the primary care physician. Showing people who have become cross-addicted is one of the better ways to convince the physician to be more careful in his prescribing of mood-altering drugs. The film has two examples of cross-addiction, one to other sedatives and one to amphetamines. It also gives an example of iatrogenic alcoholism. A housewife who would not ever have drunk alcohol on her own, since her mother and father had both died of alcoholism, was prescribed alcohol by her first pediatrician. (It is recommended still in La Leche League book for nursing mothers to drink beer at bedtime.) She was told to take two beers at bedtime, but little did the physician know that she would have six children and nurse each for 9 months. Then the same woman was again prescribed alcohol as an appetite stimulant. (6) The film encourages the doctor to do something about his patients' alcoholism, to confront his patients and suggest to them that he can refer them to AA.

Now most of us who have tried to get an alcoholic patient to go to AA know it is not a very

easy thing to do. It is rare that a patient says, "Oh boy, Doc, AA is just what I always wanted." The doctor has to use all the persuasion at his command to get his patient to go to the meeting. One of the most effective ways for a doctor to refer a patient to AA is for the doctor himself to be knowledgeable about AA. I think the best thing for him to do is to go to an AA meeting. I have recommended this to a number of doctors. I did a careful followup of 1 group of 78 primary care physicians to whom I strongly emphasized the importance of going to AA meetings; none of them ever did.

So the film is a way of bringing the meeting to this group who will probably never go to a meeting even though it is a good idea. I believe that a doctor's ability to use AA is in direct proportion to his enthusiasm about the program, and if the film serves to educate him and provide a little bit of enthusiasm about the AA program, I think he will be much better able to refer patients.

A pretest was prepared to be given with the movie on AA. Very briefly, the results show two groups that have viewed this film. One, a group of 232 physicians who are mostly in clinical practice, was the group for which I originally designed the film. They had never been to an AA meeting.

The other group is everybody who has ever looked at the film—862 people, 20 percent of whom are not physicians. They are pr[illegible] alcoholism counselors; 14 percent of the [illegible] gone to more than 10 AA meetings. I su[illegible] these latter are, in fact, AA members looking at the film.

Very interestingly, it looks as though there are two distinct population groups of physicians. Those who have been to one AA meeting form one group, and those who have never been to an AA meeting form another group. The two groups as groups answer all the rest of the questions very, very differently. Their attitudes and their impressions about AA are entirely different.

I could not understand why 76 percent of the total said they do encourage alcoholic patients to go to AA; I really can hardly believe that. I think they answered what they thought I wanted to hear or what they would like to do.

Regarding the question, "What is your feeling of the role of AA as an aid in the recovery of alcoholic persons?" the group of physicians averaged a very high regard for AA.

This substantiates the findings of earlier studies in California showing that practicing physicians do have a very high regard for AA. However, they are somewhat misinformed about AA. I think the major misconception is revealed in their answer to the following true or false question: "Alcoholics Anonymous is a voluntary self-help group whose philosophy advocates the elimination of alcohol use from our society." In the question, AA was being equated with a temperance movement. Almost half of the physicians who had never been to a meeting said this was a true statement.

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