

Appendix A

Project Cork: Model Alcohol Curriculum

Project Cork at Dartmouth Medical School was established in 1970 to develop and implement an integrated model alcohol curriculum for undergraduate medical education. The goal of the curriculum was to improve physician performance in dealing with what was widely recognized as a major public health problem.

The model curriculum was developed in 1978 by a specially designated Cork Model Curriculum Committee, comprised of faculty from both the basic science and clinical departments of the medical school. In organizing its work, the Curriculum Committee conducted a literature review, examined efforts at other institutions, and the programs and materials of the Career Teacher Program of the NIAAA. As a point of departure, the Committee used the teaching objectives set forth by the AMERSA Committee on Curriculum Objectives. In some instances, there were expansions, in other instances, deletions were made, or changes in emphasis introduced.

Beyond specifying the core content of a model undergraduate curriculum, the Committee also indicated priorities for the various elements and provided a bibliography, both to support its choices and to identify source materials. The Committee also drafted an introductory statement making explicit its premises and views of the mission and challenges of undergraduate medical education. In this statement, the Committee set forth points which it saw as necessary considerations for any efforts to change medical curriculum. The Cork Model Curriculum was widely circulated within the institution. It survived as a blueprint for discussion with faculty around specific desired changes in course content.

While the Model Curriculum was a general guide, it became apparent that both a re-thinking and further amplification of the objectives were required as the Project considered changes in clinical teaching. In 1980 a Clinical Teaching Task Force was developed to prepare detailed plans for clinical teaching within the clerkships. The Task Force's Report, entitled *Toward a Perturbation in Clinical Teaching*, functioned as the outline for work with the individual clerkship directors. [See page 12]

Introduction to CORK Curriculum

We consider the basic objectives of this proposed curriculum to be similar to those which might reasonably be offered for any art of the medical curriculum.

First, the faculty should identify that portion of the total body of knowledge concerning alcoholism which it believes is essential important for physicians to know. As is the case generally in the medical curriculum, portion seem large and difficult to digest. Nevertheless, choice must be made by the faculty: decisions to include some information and to exclude other information. Furthermore, some factors, concepts, and hypotheses are of major importance and should be given greater emphasis, whereas other, although useful, are of lesser importance and may be treated more lightly. In a final version, the model curriculum should indicate these categories.

Second, the curriculum should identify clearly the limits of current knowledge regarding alcoholism and should identify those specific areas in which the original efforts of interested students might be expected to bear fruit. As art in scientific research is to ask questions what are answerable, given existent limitations of theory and technology; productive is pursuit of the soluble.

Third, the curriculum should enhance the self-awareness of the students. They should be stimulated to examine their own habits of alcohol ingestion and how and why these habits developed. And they should come to appreciate how and why they react to others who are alcoholics or have drinking problems.

Fourth, we think it essential that students come to appreciate the complexity of management of chronic alcoholism, especially to learn that physician alone cannot “do the whole job.” In fact, they should come to realize that our current of modes of treatment are imperfect and other impermanent. Students should become aware of existent special programs for detection and treatment of alcoholism, of the roles played by social workers, counselors, psychologists, and others in treatment programs.

Finally, we believe that the ideal medical curriculum should arouse deep compassion and intense curiosity in the students. The grinding demand to master the burgeoning body of medical knowledge too often blunts the senses and leaves little time for reflection. A sense of wonder has no room in the cluttered mind. We need to do experiments to learn how awe and wonder can be rekindled and encouraged in medical students. Without them, the learning and practice of medicine become tedious, and original ideas fall on sterile soil. Perhaps, therefore, we should teach fewer facts. At the very least, the curriculum should include times when faculty and students take on the “big issues,” knowing full well they will not be resolved.

Curriculum Committee (signed)

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In developing the model curriculum, the efforts of Project Cork were facilitated by use of *Physician Education in Substance Abuse: Curriculum Objectives*. The Project Cork Curriculum Committee gratefully acknowledges the effort of the AMERSA Committee on Curriculum Objectives, chaired by Donald Davis, M.D.

March 20, 1978

The Cork Model Curriculum

*suggested course/
department*

Curriculum Objectives and Priority

PSYCHIATRY	<p>A. Introduction/Orientation</p> <ol style="list-style-type: none"> 1. Identify and discuss factors which have molded your own views toward alcohol use and alcoholism. (1) 2. Describe a model format for helping others understand how their personal experiences with drinking and alcoholism influence their work with alcoholics. (3) 3. Definitions <ol style="list-style-type: none"> a. Abstinence (1) b. Abuse (1) c. Abuse potential (3) d. Addiction (1) e. Cross-tolerance (1) f. Dependence: psychological and physiological (1) g. Potentiation and synergism (1) h. Problem drinker (1) i. Prevention: Primary, secondary, and tertiary (1) j. Psychoactive (3) k. Tolerance: metabolic, pharmacologic, behavioral (1) l. Withdrawal syndrome (1) <p>B. Biochemistry and Pharmacology of Alcohol</p> <ol style="list-style-type: none"> 1. Be able to do the following: <ol style="list-style-type: none"> a. Compare alcohol as a nutrient to carbohydrates, protein and fat. (2) b. Describe the reasons for nutritional deficits occurring with a high intake of alcohol (1) c. Describe the effect of alcohol on vitamin metabolism, particularly: pyridoxal phosphate (Vit. B6), thiamine (Vit. B1), ascorbic acid (Vit. C) and Vitamin A (2) 2. Describe the pharmacology of alcohol (1) <ol style="list-style-type: none"> a. Describe the physiologic and behavioral effects b. Describe the absorption and distribution of alcohol c. Diagram the major metabolic pathways of alcohol degradation d. Describe the physiology of withdrawal e. Describe the action of disulfiram 3. Describe the physiology and biochemistry of dependence and addiction with special reference to the brain and liver. (1)
PHARMACOLOGY/ PSYCHIATRY	
EPIDEMIOLOGY	
BIOCHEMISTRY/ PSYCHIATRY	
BIOCHEMISTRY/ PHARMACOLOGY	
PATHOLOGY/ BIOCHEMISTRY (CORRELATION CLINIC)	
BIOCHEMISTRY/ PHARMACOLOGY	

The number in parenthesis denote the priority of each item: first, second, or third. These are operationally defined as follows: #1= Essential; # 2= Nice, recommended, but... ; #3 = Extraneous, luxurious, "fluff".

*suggested course/
department*

Curriculum Objectives and Priority

<i>suggested course/ department</i>	<i>Curriculum Objectives and Priority</i>
PSYCHIATRY (PSYCHOACTIVE DRUGS)/ PHARMACOLOGY	<p>B. Biochemistry and Pharmacology of Alcohol (continued)</p> <p>4. Explain the alcohol-drug interactions of both commonly used over-the-counter preparation and prescription drugs on any kind. List clinically significant examples (2)</p>
SCIENTIFIC BASIS of MEDICINE/ BIOCHEMISTRY/ (CORRELATION CLINIC)	<p>5. Describe the possible adverse effects of acetaldehyde upon liver, heart, and brain. (1)</p>
GENETICS	<p>C. Etiology of Alcoholism</p> <p>1. Genetic factors: Describe evidence concerning the role of heredity in the development of alcoholism. (1)</p>
COMMUNITY MEDICINE EPIDEMIOLOGY	<p>2. Socio-cultural factors</p> <p>a. Compare and contrast alcohol use patterns related to demographic variables and ethnicity. (2)</p> <p>b. Discuss the relationship between culturally defined drinking patterns and the development of alcohol abuse and alcoholism . (2)</p>
PSYCHIATRY	<p>c. Describe the factors which make physicians especially susceptible to substance abuse. (2)</p>
COMMUNITY MEDICINE	<p>d. Describe some economic and political issues that related to alcohol use and alcoholism. (3)</p>
PSYCHIATRY I or II	<p>3. Psychological Factors</p> <p>a. Describe the changing views of the role of psycho-logical factors in the development of alcoholism. (1)</p> <p>b. Describe the concept of alcohol use as a coping mechanism, including (1)</p> <ul style="list-style-type: none"> • Alcohol abuse as symptomatic of an underlying emotional disturbance, and • Alcohol abuse as self-medication, for sleep disturbance, depression, anxiety states, and psychotic disorders. <p>c. Describe how alcohol use may serve differing functions throughout the phases of the life cycle.</p> <p>d. Describe the functions of denial in the alcoholic. Note the implications for the family interactions and the patient/physician relationship; and possible organic substrates (1)</p> <p>4. Discuss the importance in each individual patient of the complex interaction f genetic, psychological, social, and pharmacological factors which bear upon and are influenced by alcohol use.</p>

*suggested course/
department*

Curriculum Objective and Priority

SCIENTIFIC
BASIS
OF
MEDICINE

MEDICINE
(NEUROLOGY)

D. The Diagnosis of Alcohol Intoxication Priority

1. Describe the “dose response” and “time action” characteristics of alcohol as a central nervous system depressant agent. (1)
2. Describe the findings on physical examination of the following states of alcohol intoxication and discuss their relation to dose. (1)
 - a. Lowered inhibitions
 - b. Cerebellar dysfunction
 - c. Stupor, coma
 - d. Pathological Intoxication
3. Describe why alcohol-induced coma is a medical emergency and outline a treatment plan. (1)
4. List the disease states that frequently accompany alcohol intoxication and describe how they increase morbidity and mortality.

E. Diagnosis and Treatment of Alcohol Withdrawal

1. Describe the pathophysiology of alcohol withdrawal (1)
2. For each of the following syndromes of alcohol withdrawal, list their symptoms, signs, and their time of occurrence relative to the period of abstinence: (1)
 - a. Tremulousness
 - b. Auditory hallucinosis
 - c. Withdrawal seizures
 - d. Delirium tremens
3. Discuss the role of anticonvulsants in the immediate and long-term management of withdrawal seizures. (1)
4. Describe why delirium tremens is a medical emergency and outline its prevention and specific treatment. (1)
5. Describe the method and value of prophylactic sedation in the patient undergoing alcohol withdrawal. (1)

F. Alcoholism: Natural History, Diagnosis, and Treatment

1. Briefly describe some of the theoretical approaches to the understanding of drinking behavior. (2)
2. Describe the signs, symptoms, and diagnostic criteria for alcoholism. (1)
3. List the behavioral signs and symptoms of the progression of alcoholism. (1)
4. Discuss alcoholism as a chronic disease process. (1)

PSYCHIATRY/
MEDICINE
(CORRELATION
CLINIC)

*suggested course/
department*

Curriculum Objective and Priority

PSYCHIATRY/
MEDICINE

CORRELATION
CLINIC

PSYCHIATRY

F. Alcohol: National History, Diagnosis and Treatment (Cont'd)

5. Chart the recovery of function following abstinence, including the sub-acute withdrawal phenomena, and cognitive, memory, and social functioning. (1)
6. In the context of alcoholism as a chronic disease, discuss the treatment and rehabilitation and the role of the physician in these processes. (1)
7. Discuss the components of alcohol treatment in which the physician has a unique role to play. (2)
8. Distinguish between alcoholism treatment and treatment of the medical sequelae of chronic alcohol intake. (1)
9. Discuss strategies of intervention to initiate alcohol treatment. (1)
10. List the components of comprehensive alcohol treatment: (1)
 - a. Note the community resources which might be able to provide each component of care.
 - b. List patient characteristics which would indicate the need for each component.
 - c. Outline the steps essential for a referral to each component
11. Discuss the importance of the teach concept in alcoholism treatment. (2)
12. Apply the concept of continuity of care to alcoholism treatment.
13. Discuss the need for family involvement in identification and treatment of alcoholism (1)
14. List some criteria for the diagnosis "alcoholism: in remission" (2)
15. Discuss the implication for the patient and the physician of the distinction between "the patient is a chronic drinker" and "the patient has alcoholism ." (2)
16. List special issues encountered by the physician in the consultative role with other physicians and other treatment staff if their work with alcoholics. (2)
17. Outline an alcohol use history and how it should be taken. Include techniques to identify the presence of other substance of abuse. (1)
18. Discuss interviewing techniques to increase reliability of data. (1)
19. Describe behavior common among alcoholics which might arouse feelings in the physician, such as anger, frustration, fear, and invite rejections. (1)

*suggested course/
department*

Curriculum Objective and Priority

PSYCHIATRY	20. List the characteristics of the active alcoholic which you would find most difficult to handle. (1)
	21. List some guidelines for the judicious use of psychotropic medications in the care of alcoholic patients. (1)
PHARMACOLOGY	22. Describe specific diagnostic tests, such as breathalyzer, blood alcohol levels, which would suggest acute and chronic alcohol use. (2)

G. Major Medical Complications of Alcohol Use

SCIENTIFIC BASIS OF MEDICINE & REVIEW CLINICAL CLERKSHIPS	<ol style="list-style-type: none"> 1. List abuse and chronic adaptive and toxic effects of alcohol on the following. <ol style="list-style-type: none"> a. Central Nervous System (1) <ul style="list-style-type: none"> Wernicke-Korsakoff Syndrome (1) Cerebellar Degeneration (1) Amblyopia (2) Marchiafava-Bignami Syndrome (3) Central Pontine Myelinolysis (3) Hepatic Encephalopathy (3) Hepatocerebral Degeneration (3) b. Peripheral Nervous System (1) <ul style="list-style-type: none"> Peripheral Polyneuropathy (1) Myopathies (2) Acute Rhabdomyolysis (2) Sub-acute proximal (2) c. Gastro-Intestinal Tract (1) <ul style="list-style-type: none"> Esophagus: L.E.S. incompetence (3); Esophagitis Stomach <ul style="list-style-type: none"> <i>acute effects</i>: enhanced gastric acid, damage to mucosal barrier, and gastritis (1) <i>chronic effects</i>: gastric ulcer (3) Small intestine <ul style="list-style-type: none"> <i>acute effects</i>: inhibition of mucosal digestive systems (3) <i>chronic effects</i>: impaired absorption (3) d. Liver (1) <ul style="list-style-type: none"> <i>acute effects</i>: metabolic redox potential and sequelae <ul style="list-style-type: none"> Lipid disposition; Adaptation of SER Toxic ↑acetaldehyde, damaged mitochondria (1) <i>chronic effects</i>: central hyaline necrosis and sclerosis, alcoholic hepatitis, alcoholic cirrhosis (1) <ul style="list-style-type: none"> Complications of cirrhosis: portal hypertension (esophageal varices, hemorrhoids, bleeding); hepatic coma; feminization syndrome; peptic ulcer; altered hemodynamic status; disordered renal function, including RTA and oliguria (1)
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*suggested course/
department*

Curriculum Objective and Priority

SCIENTIFIC
BASIS
OF
MEDICINE

&
REVIEW
CLINICAL
CLERKSHIPS

- e. Pancreas (1)
Chronic effects: Pancreatitis and its complications
- f. Cardiovascular system (2)
Acute effects: cardiac arrhythmias (3)
Chronic effects: alcoholic cardiomyopathy (2)
- g. Respiratory System (2)
Acute effects: aspiration pneumonia, depress WBC and humeral immune
Chronic effects: chronic bronchitis and COPD
Complications of alcoholism: hypoxemia, secondary to A-V shunts; tuberculosis, ventilation profusion abnormalities
- h.. Hemopoietic System (1)
- Anemias

Megaloblastic	Fe deficiency
Zieve's Syndrome	Bone marrow depression
Sideroblastic	Hemolytic
Spur cell anemia	Stomatocytosis
 - White blood cells

Decreased chemotaxis	Leukopenia
Diminished granulocyte adherence	
Diminished granulocyte reserves	
 - Platelets

Impaired hemostatis,	Splenic breakdown
Bone marrow suppression	
 - Homeostasis

Decreased clotting factor production	
Frequent occurrence of DIC	
- i. Kidneys (3)
Acute effects: vasodilation; altered sodium and potassium excretion; decreased ADH secretion
Chronic effects: renal hypertrophy; distal tubular changes; interstitial edema
- j. Immunologic (2)
Impaired cell mediated immunity
- k. Alcohol and sexual function (2)
Direct effects: hypothalamic-pituitary dysfunction; gonadal dysfunction; ↑ metabolic clearance of testosterone
Effects related to complications: hyperestrogenization

*suggested course/
department*

Curriculum Objective and Priority

SCIENTIFIC
BASIS OF
MEDICINE/
REVIEW CLINICAL
CLERKSHIPS

1. Skeletal system (3)
Chronic effects: ascetic necrosis, gout

MATERNAL
AND
CHILD HEALTH

- m. Outline the pre-natal and neo-natal complication of maternal alcohol use and abuse (1)

- n. Behavioral complication of alcohol use

PSYCHIATRY/
COMMUNITY
MEDICINE

H. Legal-Ethical-Historical

1. Describe the laws relating to medical practice with alcoholics
 - a. physician-patient communications
 - b. DWI — public intoxication
 - c. Commitment
 - d. Impaired physician laws
 - e. Breathalyzer, blood alcohol level analysis

PSYCHIATRY

2. Discuss the medical ethics issue involved in the treatment of the alcoholic, e.g. confidentiality, diagnosis, research (2)
3. Trace the historical development of the concept of alcoholism as a medical entity and concern (3)

I. Prevention

COMMUNITY
MEDICINE

1. Demonstrate an understanding of primary, secondary, and tertiary prevention in relation to alcoholism (e.g. legal measure, education methods, and environmental manipulations) (2)
2. Describe some common secondary/tertiary prevention models such as industrial programs, court programs, AA (3)

MEDICINE/PSYCHIATRY

3. List some ways in which the attitude and behavior of house staff physicians influence the medical students' development of clinical skills in the treatment of alcoholics (2)

COMMUNITY MEDICINE

4. Describe the role of the physician in primary, secondary, and tertiary prevention efforts. (1)

Model Clinical Curriculum

—Toward a Perturbation of the Clinical Curriculum on Alcohol —

Broad Goal: To instill in students the attitudes, skills and knowledge required to recognize and manage alcoholism problems and alcohol-related complications, and to impart the importance of physicians' efforts in the primary, secondary and tertiary prevention of problems associated with alcohol use.

Task #1. Detect Incipient Alcoholism

Knowledge

- Alcoholism is often a hidden disease, unrecognized by the patient.
- Alcoholics seek help for other problems.
- Natural history of alcoholism
- Persons at risk for alcoholism

Skills

- Comfortably discuss alcohol use with patients and family.
- Alcohol screening (CAGE)
- Alcohol history
- Attend to process of clinical interaction and comment.

Attitudes

Empathy/firmness
 Task is worthwhile
 NB. These are relevant to all tasks

Activities

Practice interviewing skills
 View University of Michigan tape
 History and physical examination

Location

Introduction to Health Care; Physical Diagnosis; All clerkships, especially Medicine, Primary Care

Evaluation

Phase I and Phase II exams; Clerkship evaluations; Global Survey

Task #2. Recognize and Deal with Medical Emergencies related to Alcohol Abuse and Withdrawal

Knowledge

- Problems are serious/life threatening
- Basic pharmacology and physiology of:

acute intoxication	alcohol hypoglycemia
drugs and alcohol	withdrawal syndromes

Skills

- Management of emergencies

Attitudes

- Recognition is important and worthwhile
- Intervention is important and worthwhile

Activities

Study pharmacology, biochemistry, metabolism
 Work in Emergency Room
 Work on inpatient services
 View the NCME tape on withdrawal

Location Phase I and II lectures; Emergency room; Inpatient services

Evaluation Phase I and Phase II exams; Clerkship evaluations

Task # 3 Diagnose and treat Sequelae and Complications of Alcohol Dependence

Knowledge

- Understand pathophysiology of sequelae
- List major sequelae including those that are perinatal, medical, and surgical
- Long-term management and follow-up usually required

Skills

- Major diagnostic approaches to sequelae
- Treatment of sequelae
- Counseling patients on major sequelae

Attitudes

Prevention/recognition are worthwhile
 Situation is desperate but not hopeless
 "...to comfort always"

Activities

Study sequelae in Scientific Basis of Medicine (SBM)
 Deal clinically with sequelae in clerkships

Location Inpatient services; lectures

Evaluation Phase II exams; Clerkship evaluations; Global Survey

Task # 4 Help Patients to Accept Treatment. Refer Patients and Family to Alcohol Treatment Services. Participate in Supporting Treatment Efforts

Knowledge	<ul style="list-style-type: none"> • Understand the natural history of recovery process • Management of chronic disease • Understand community resources for the alcohol <ul style="list-style-type: none"> AA, Al-Anon, Alateen Outpatient treatment services Residential programs • Dynamics of intervention including that the patient does not need to request help or want to stop drinking for treatment to be initiated • Recognize own limitations
Skills	Explain to patient and family, the need for treatment
Attitudes	Empathy/firmness Treatment can make a difference Disease is not hopeless Willing to take responsibility for referring patients for treatment M.D. not a “Lone Ranger”
Activities	Attend AA meetings Use alcohol counselors and consultant specialists
Location	All clerkships, especially Psychiatry
Evaluation	Phase II exams; Clerkship evaluations; Global Survey

Task # 5 Routinely Educate Patients about Alcohol Use

Knowledge	<ul style="list-style-type: none"> • The general public has little accurate information about alcohol’s effects • Medical and social factors placing patients at risk for alcohol-related problems • Resources available for patient education
Skills	<ul style="list-style-type: none"> • Skills in patient education; Using additional resources to best advantage: brochures; slide-tape shows; nurse educators
Attitudes	Patient education is worthwhile; it can made a difference Information is a requisite for health maintenance.
Activities	—
Location	Clerkships
Evaluation	—

Reflections on Educational Goals for an Undergraduate Medical School Curriculum in Alcohol

INTRODUCTION

A series of developments during the 1970s resulted in increasing demands upon medical schools to become more active in the teaching alcohol and substance abuse material:

- The National Council on Alcoholism sponsored a conference in 1970. which deplored the lack of curricula on these topics and the unavailability of clinical sites for the training of medical students in treating alcoholism and substance abuse. (Seixias and Sutton, 1977).
- The Career Teacher Program on Alcohol and Drug Abuse was inaugurated by the NIAAA in December, 1971. Its purpose was to assist medical schools, through the support of junior faculty, in developing expertise in these optical areas. (CONSAD 1977)
- In 1972, a Macy Conference was held. It concentrated on the role medical schools should take relative to these problems, made suggestions as to the objectives for medical student education and identified the nature of continuing education for physicians in alcohol and drug abuse. (Macy Foundation, 1972)
- Also during 1972, the American Medical Association's Council on Mental Health issued a position paper that outlined specific proposals for teaching in these content areas. In part the report suggested that this education "be distributed throughout the curriculum, whenever and wherever appropriated, and with the purview of basic science and clinical subjects." (American Medical Association, 1972)
- In December 1978, the AMA House of Delegates passed a resolution supporting the principle that faculty of undergraduate, graduate, and continuing medical education programs should provide educational exposure and programs for students, residents, and practitioners on comprehensive medical and clinical management of patients with alcoholism.

In sum, these events highlight the fact that medical education about alcoholism and other additions has been viewed as inadequate, fragmented, and ineffectual in preparing medical students and physicians to respond to these conditions. In 1977, Dartmouth Medical School received a planning grant from Operation Cork, an education program of the Kroc foundation, to develop a model integrated alcohol curriculum for undergraduate medical education. While this effort was clearly only one part of an increasing national concern for physician education in the area, it was unique in several respects: the scope of its efforts, its organization as a medical school-wide endeavor, and its design as an experiment in medical education.

DEFINING EDUCATION OBJECTIVES: THE DILEMMA

Despite the rather widespread and ever-growing consensus during the 1970s that physicians were not being adequately prepared to deal with alcoholism, there has been a notable lack of discussion around what would constitute adequate training and be the minimal clinical competencies or physician skills. For example, curriculum objectives developed by the Association for Medical Education and Research in Substance Abuse (AMERSA) Committee on Curriculum Objectives have received wide circulation. By virtue of their inclusion into guidelines for medical education grants, they have, acquired at the least the unofficial imprimatur of NIAAA. These guidelines, with modification provided the basis for Project Cork's own model curriculum. These objectives identify discrete knowledge or content areas and are written the following formats: the students shall be able "to list..." "to describe..." They explicitly do not address is what the student should be able "to do, clinically." The one exception to this general failure to identify clinical competence is in a set of guidelines developed by the AMA's Panel on Alcoholism (1978). The guidelines set forth three levels of physician responsibility in relationship to alcoholism. The first guidelines set forth three levels of physician responsibility in relationship to alcoholism. The first level, "diagnosis and referral," is defined as a basic responsibility for all physicians who provide clinical care. The remaining two levels, on the other hand, are elective and describe levels of involvement in alcohol treatment and the competencies associates with ach. However, though available upon request through the AMA, these guidelines have neither been published nor widely circulated. Hence they have not been available as a conceptual model for either fostering or focusing discussion on education objectives.

The absence, this far, of a coherent statement of educational goals or competencies (performance objectives) in medical education around alcohol may be attributed to several factors. The major factor is the absence of a clear consensus (within the alcohol field as well as within medicine) about the relationship of the alcohol field to the rest of organized medicine. Is the alcohol/substance abuse field to be seen as a separate fledgling specialty, struggling to take its place beside pediatrics, obstetrics/gynecology, surgery and psychiatry: Or is it a clinical subspecialty, and if so, a subspecialty to what discipline — medicine, psychiatry or rehabilitative medicine: Or is it better conceived as a transitory interest group, a "lobby," so to speak, which will wither away as other areas of medicine assume responsibility for care of alcohol problems and the alcoholic?

Without some answer to these basic questions, the medical educator is hard pressed to design a coherent alcohol curriculum. No long does anyone begin to presume undergraduate training suffices for the practice of medicine. The affect is that graduate medical education has become recognized and accepted as an essential phase of medical education (AAMC, 1981). Virtually all medical students enter graduate medical education programs which lead to specialty board certification. The undergraduate training experience at best provides rudimentary skills and basic knowledge which will serve as the foundation for the molding and making of the clinician during residency training. It is not seen as bestowing competency in any area of medicine, but is designed in the context of further training.

PROJECT CORK'S CURRICULUM OBJECTIVES.

In developing its model curriculum, the Project first set forth broad general goals which it say as consonant with those which might be offered for any part of the undergraduate medical curriculum. Then with these broad objectives sketched out, the Curriculum Task Force set forth knowledge areas and suggested specific courses within the Dartmouth Medical School curriculum where this material might be incorporated. These are presented in detail below.

In respect to the clinical curriculum, a separate planning group was convened, comprised of representative of each of the clinical department. This group identified five physician tasks related to alcohol use and alcoholism. In addition, the Task Force identified component sills, , as well as identified training sites, knowledge, attitudes, and evaluation activities. The tasks and skills are summarized below:

PHYSICIAN TASKS

1. Detect incipient alcoholism
2. Recognize and deal with medical emergencies related to alcohol use and withdrawal
3. Diagnose and treat sequelae and complications of alcoholism
4. Help patients to accept treatment refer patient and family to alcohol treatment services, provide medical follow-up
5. Educate patients routinely about alcohol use

SKILLS

- Comfortably discuss alcohol use with patients and family
- Take an alcohol history
- Identify early physical and behavioral signs & symptoms
- Management of emergencies
- Major diagnostic approaches to sequelae
- Treatment of sequelae
- Counsel patient on major sequelae
- Explain to patient and family need for therapy
- Marshal alcohol treatment resources
- Provide support and medical follow-up to patient in alcohol treatment
- Collaborate with alcohol treatment personnel
- Skills of patient education: use additional resources to best advantage — brochures, AV materials

DISCUSSION: LOOKING BACK

The experience of Project Cork in clinical teaching suggests to us some re-thinking of these objectives is warranted. Thou7g we continue to believe that the above physician tasks are those to which all undergraduates medical students ought to be *exposed*, in out view it is unrealistic to expect medical students to achieve competency in all or possibly even any of these areas. For one, essential clinical sills in working with alcoholics are interactional. Teaching interviewing, helping students to appreciate the dynamics of the caring relationship, and developing comfort with the physician-patient relationship are not modest tasks. Acquisition of these is probably in

large measure a function of time and experience. To resurrect an archaic term, they are part and parcel of what becoming a “seasoned clinician” is all about.

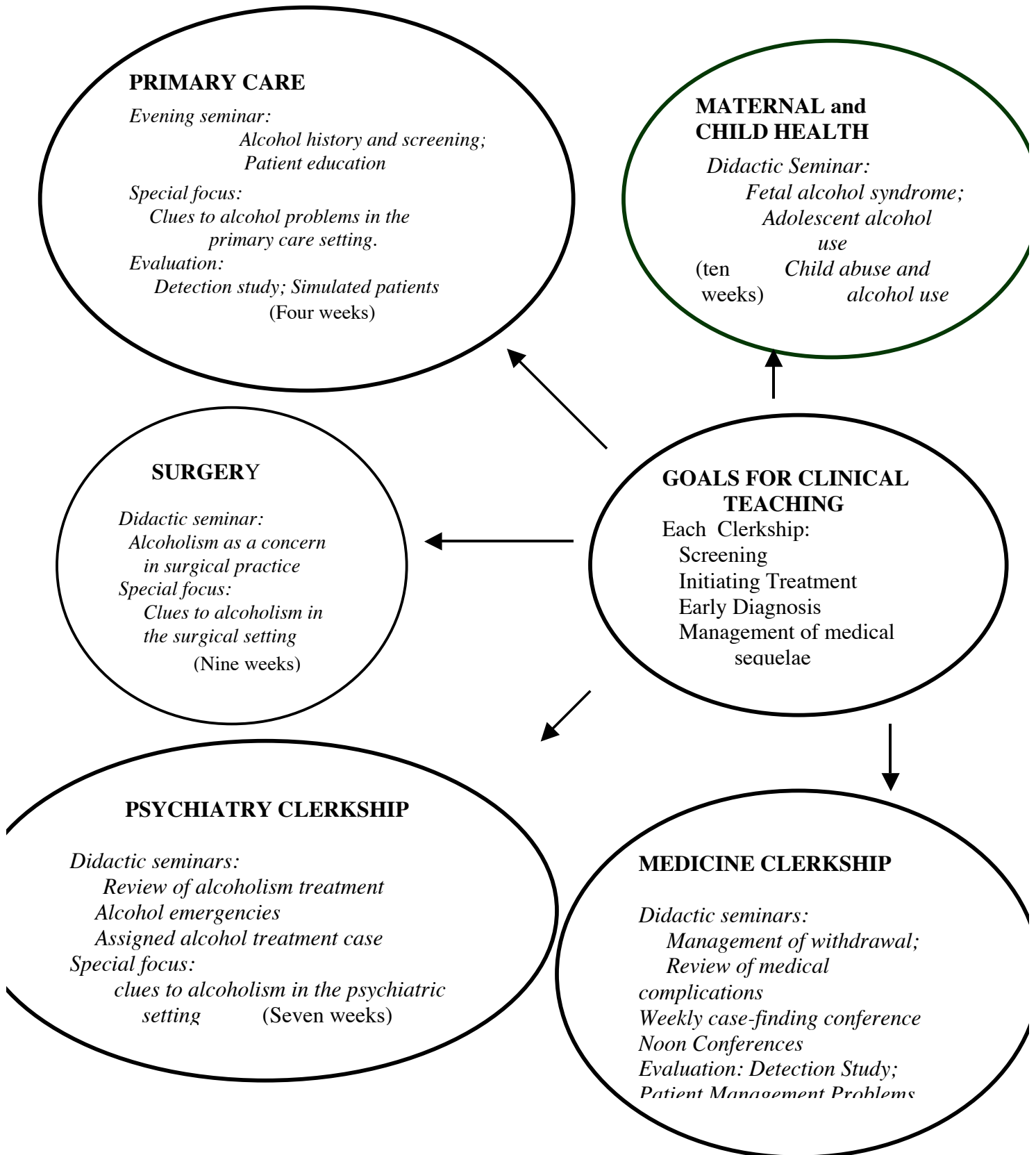
In addition, the early diagnosis of alcoholism is made, not only on the basis of physical findings or laboratory data, but on the basis of behavioral data elicited by history and gleaned in the process of the clinician-patient interactions. One may be reluctant to distinguish between the science of medicine and the art of medicine. However, if the distinction is permitted, there are areas of medicine in which one can be relatively successful, if not in the management, at last in the area of diagnosis on the basis of medical science alone. Diagnosis of alcoholism is *not* one of these areas. To use the common student parlance, the diagnosis cannot be made by “looking at the numbers.”

It appears to us that any physician’s (or therapist’s) success in working with alcoholics is predicated upon having come to grips with limitations of the clinician’s role and having abandoned the need to control, to cure, and to be able to provide care in dealing with that which is beyond one’s power alter. It also appears that there are developmental issues which influence students’ ability to deal with this (Kinney, Bergen and Price, 1982). To the extent that these assertions are true, this it is unrealistic to expect that a significant proportion of medical students will have achieved a satisfactory resolution of this component of their professional identifies by the point of graduation. It may be a significant step if by the completion of their undergraduate medical training students have come to recognize that this work which lies ahead. Thus, we in undergraduate medical education might be well advised to tone down our rhetoric, lower our expectations, and abandon some dysfunctional mythos — namely that undergraduate clinical training can impart competency, and that today there is such a phenomenon as a “generic” physician.

Project Cork, while not abandoning the clinical competencies outlines as objectives, has begun to redefine its task in light of the disciplinary approach to clinical teaching. In deference to the rationale and role of the clinical clerkships, we have begun to factor our knowledge and skills germane to the major clinical settings. Given the realities of time constraints and the mandate each clerkship sets for itself, no clerkship will focus on the things it sees as outside of its domain. One of the problems of “the generic physician” approach to alcohol is that clinical faculty fear they are using their time to teach students to be “alcohol counselors.” Even if they do not quibble with that goal, they will not have it happening on “their time”

Thus the questions to be addressed include: “What is the appropriate focus of alcohol teaching which the surgical, or obstetrics/gynecology, or psychiatry clerkships: How are alcohol problems most likely to present in each setting: What are the particular diagnostic clues. The special management issues: What are the complications associated with undetected alcohol problems: What are the effective techniques for disposition and treatment? This is sketched out in the schematic diagram of the clinical curriculum, on the following page.

Summary of Clinical Teaching



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Curriculum Changes Introduced

Phase I

<i>Course</i>	<i>Prior Alcohol Material</i>	<i>Additional New Material</i>
Introduction to Health Care	None	Patients with alcohol problems used to exemplify health care system (lectures, field trips, small groups)
Biochemistry	Metabolic pathways	None
Biostatistics/ Epidemiology	None	None
Human Structure: Gross Anatomy	None	None
Neuroanatomy	None	None
Embryology	None	Alcohol as teratogen
Microbiology	None	None
Pathology	Alcohol effects as a model for discussion of cell injury & changes in cellular metabolism	Alcoholic cardiomyopathy
Physiology	Effect of alcohol on ADH and kidney	None
Psychiatry	Overview of alcoholism (lecture within course on psychopathology)	AA meeting pre- and post discussion
Muscle, Nerve and Synapse	Alcohol-related Myopathies	None
Correlation Clinic	Alcoholic liver disease	Fetal alcohol syndrome

Phase II

<i>Course</i>	<i>Prior Alcohol Material</i>	<i>Additional New Material</i>
Scientific Basis of Medicine:		
Respiration	Essentially none	Relation of alcohol to impaired pulmonary defense mechanisms Role of alcohol as predisposing factor in COPD, acute pneumonitis, chronic granulomatous disease, aspiration pneumonia/lung abscesses and anaerobic infection of lung Lab Section: alcoholic with severe gran negative pneumonia
Hematology	Essentially none	Alcohol's effects on all of blood elements; Alcohol-related anemias
Cardiology	Alcoholic cardiomyopathy	Relationship of alcohol and hypertension, hyperlipidemia, coronary artery disease and M.I.s, arrhythmias Appropriate use of alcohol by patients with angina, hypertension, prior MI, obesity, abnormal lipid function
Dermatology	Essentially none	Amplify mention of alcohol's role in aggravating psoriasis
Oncology	Alcohol and epidemiology of cancer	None
Infectious Disease	None	Alcohol's effects on immune system
<i>Course</i>	<i>Prior Alcohol Material</i>	<i>Additional New Material</i>

Scientific Basis of Medicine (cont)

Fluid, Electrolyte Kidney	Alcohol and ADH Panel case with acute renal failure, 2° to non-traumatic alcohol-induced rhabdomyolysis Mention of hepato-renal syndrome	More detailed discussion of and hepato-renal syndrome Effect of alcohol on renal mechanisms for handling handling Mg ⁺⁺ , uric acid, PO ₄
Endocrinology	Alcohol and glucose metabolism 2° aldosteronism, cirrhosis/ascites	Metabolic effects of alcohol o on CH ₂ O, lipid, and protein metabolism (expanded discussion of several hours)
Gastroenterology	Alcohol and esophageal diseases, gastric disease, ulcer disease, liver disease, ascites, hepatic come, pancreatitis, small intestinal dysfunction, possible immunologic role in etiology of cirrhosis	None
Connective Tissue Disease	Alcohol and purine metabolism; increased incidence of infectious arthritis, osteoarthritis and aseptic necrosis of hip	Alcohol and muscle disorders
Neurology	Neuropathology of cerebellar degeneration, Wernicke/ Korsakoff's syndrome, chronic hepato-cerebral disease (with 2° astocytosis)	Pathoneurophysiology of withdrawal Effects on neurotransmitters Neurologic complications (two additional full hours)
Reproduction	None	Alcohol's effects on testicular and pituitary/ hypothalamic gonadal hormone function Alcohol and sexuality

Course
Prior Alcohol Material***Additional New Material***

OTHER PHASE II COURSES

Pharmacology	Pharmacology of alcohols, disulfiram Alcohol-disulfiram reaction Alcohol-sedative/hypnotic Interactions	Alcohol and other drug interactions, especially psychopharmacologic agents
Epidemiology	None	Note: Specific alcohol material not appropriate to methods course
Systems of Medicals Care	None	Not appropriate
Psychiatry	Alcohol and psychotropic drug interactions Use of psychotropic medi- cations in alcoholics Bio-social basis of substance abuse	Management of alcoholic in the ER Role of psychiatrist in treating alcoholism Alcoholic family to exemplify family system pathology and treatment. (two additional hours)