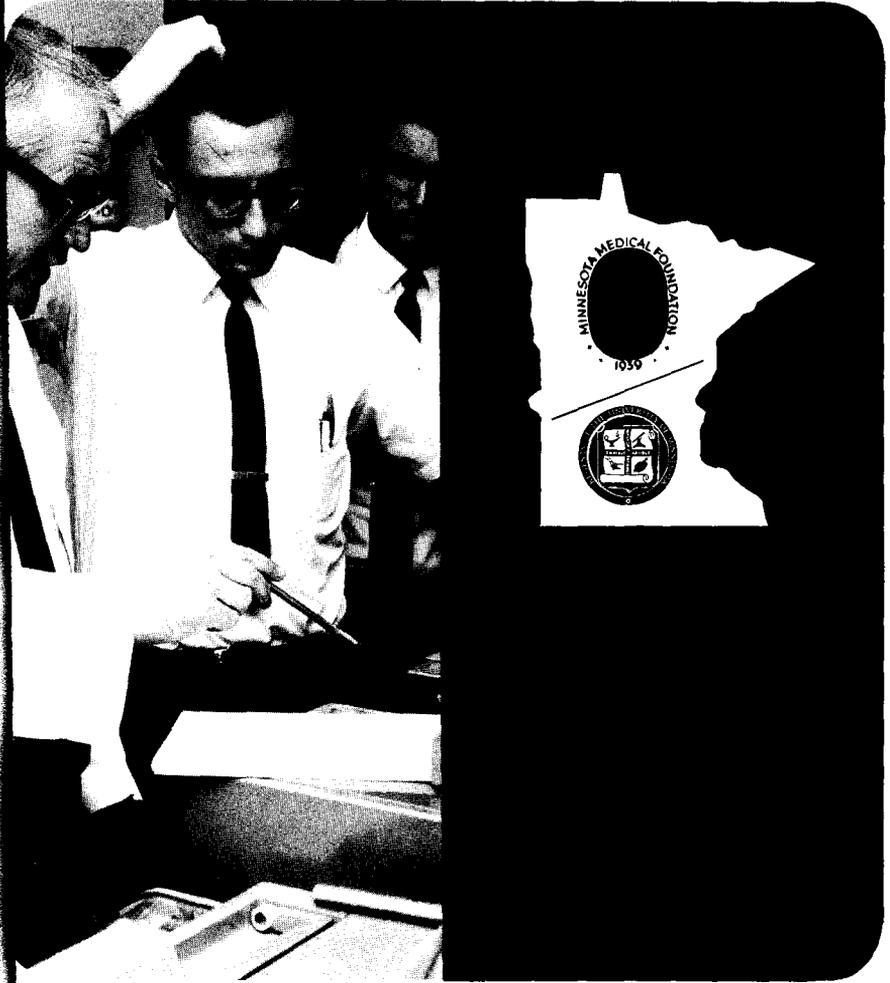


MEDICAL BULLETIN



VOLUME 40 / NUMBER 6

FEBRUARY / 1969

THE UNIVERSITY OF MINNESOTA MEDICAL BULLETIN

W. ALBERT SULLIVAN, JR., M.D., EDITOR / EIVIND O. HOFF, JR., EXECUTIVE EDITOR

Published monthly except July and August by the Minnesota Medical Foundation. Annual membership and subscription: \$25.00. Second Class postage paid at Minneapolis, Minn. No advertising accepted. Editorial office: 1342 Mayo Bldg., University of Minnesota, Minneapolis, Minn. 55455.

FEBRUARY, 1969

Volume 40

Circulation: 6,500

24 pages

Published by the Minnesota Medical Foundation in behalf of the University of Minnesota Medical School, University Hospitals, Minnesota Medical Alumni Association, and the Minnesota Medical Foundation. Statements and opinions published herein are exclusively those of the authors themselves.



OFFICERS

MINNESOTA MEDICAL FOUNDATION: M. E. HERZ, president; RICHARD L. VARCO, vice president; T. RICHARD ANDERSON, secretary-treasurer; EIVIND O. HOFF, JR., executive director.

MINNESOTA MEDICAL ALUMNI ASSOCIATION: LEONARD ARLING, president; GEORGE W. JANDA, vice president; EMERSON E. HOPPES, vice president; HENRY W. QUIST, secretary; JAMES E. JENSON, treasurer.

UNIVERSITY OF MINNESOTA MEDICAL SCHOOL: MALCOLM MOOS, president; ROBERT B. HOWARD, dean, College of Medical Sciences; H. MEAD CAVERT, associate dean and chief executive officer, Medical School; ROBERT A. ULSTROM, associate dean; ROBERT J. McCOLLISTER, assistant dean; ROBERT O. MULHAUSEN, assistant dean; W. ALBERT SULLIVAN, JR., assistant dean.

CHARTING THE NEWS

ADMINISTRATIVE MACHINERY REVISED IN COLLEGE OF MEDICAL SCIENCES

CONCURRENT with its persevering outreach for legislative support to expand the Health Sciences, the Medical School completed a major reorganization of its internal administrative structure. Almost unnoticed amid the effort to energize the \$65,000,000 expansion program was the approval of important changes in the constitution and bylaws of the College of Medical Sciences, as they relate to the Medical School, first adopted March 11, 1966, and amended most recently on November 7, 1968.

The revisions received the approval of the University of Minnesota's Board of Regents on December 13, 1968, and thus became the official table of organization for the College of Medical Sciences, including the Medical School, School of Nursing, School of Public Health, and University Hospitals.

The reorganization provided for upgrading of certain divisions within the Medical School to departmental status, a long-sought development. In addition, the Medical School divided itself into two formal Councils covering the basic health sciences and clinical science disciplines. Each of the two councils is responsible for joint consideration and implementation of educational programs. The new setup looks like this:

COUNCIL OF BASIC HEALTH SCIENCES

Chairman—Dr. Wallace D. Armstrong

Department of Anatomy
Department of Biochemistry
Department of Microbiology

Department of Pathology
Department of Pharmacology
Department of Physiology

COUNCIL OF CLINICAL SCIENCES

Chairman—Dr. Frederick H. Van Bergen

Department of Anesthesiology
Department of Dermatology
Department of Family Practice
and Community Health
Department of Laboratory Medicine
Department of Medicine
Department of Neurology
Department of Neurosurgery
Department of Obstetrics and
Gynecology
Department of Ophthalmology

Department of Orthopedic Surgery
Department of Otolaryngology
Department of Pediatrics
Department of Physical Medicine
and Rehabilitation
Department of Preventive Medicine
and Public Health
Department of Psychiatry
Department of Radiology
Department of Surgery

Under the new plan, Medical School departments may establish administrative subdivisions, to be known as divisions, laboratories, or sections. The academic faculty was delineated as "fulltime teachers at the Medical School or its affiliated teaching hospitals." Within this framework exists the following machinery:

Executive Faculty.

An Executive Faculty was established consisting of the president of the University, the dean of the College of Medical Sciences, the various deans of the Medical School, and all professors, associate professors, and assistant professors who serve fulltime and are on tenure. The Executive Faculty is responsible for the academic affairs and internal policies of the Medical School, including entrance requirements, curricula, instruction, examinations, grading, degrees, etc.

The Executive Faculty of the Medical School has four principal committees: (1) Committee on Committees, (2) Educational Policy Committee, (3) Medical School Admissions Committee, and (4) Committee on Student Scholastic Standing.

Administrative Board

The Administrative Board of about 40 members includes all heads of departments, representatives of related units of affiliated hospitals, and the director of University Hospitals. Dean Robert B. Howard and Dr. H. Mead Cavert, Associate Dean of the Medical School, share duties as presiding officers. The Administrative Board is responsible for overseeing the Administration of the policies of the Executive Faculty.

Faculty Advisory Council

A small responsible group of advisors has been elected by and from the Executive Faculty to meet frequently with administrative officers and make recommendations to the Administrative Board.

Director of University Hospitals.

The Director is principal administrative officer of the Hospital, and is responsible for all hospital matters related to educational programs, research activities, and standards of professional service. He reports to the Dean of the College of Medical Sciences, but his administration of the business affairs of the Hospitals is subject to central fiscal policies of the University.

Medical Staff

Composed of all the physician members of the Academic faculty who have responsibility for care of patients and diagnostic procedures. A Chief of the Medical Staff is elected by the Medical Staff. Currently, this post is held by Dr. Lyle A. French, head of the Department of Neurosurgery.

Hospital Staff

Composed of the general faculty of the College of Medical Sciences, top administration of the Hospitals, heads of hospital de-

partments and administrative units, and all professional personnel rendering care of patients at the Health Sciences Center. The Hospital Staff normally meets on a weekly basis, for appropriate reports and educational programs.

In commenting on the reorganization, Dean Robert B. Howard said:

"The organizational structure of the Medical School as now constituted should facilitate the development of the teaching and research programs. The effectiveness of the Executive Faculty in dealing with curricular reform, through its Educational Policy Committee, has already been amply demonstrated."

Dean H. Mead Cavert, Associate Dean of the Medical School, said:

"Important and improved as the organizational structure of the Medical School certainly is, far more crucial to accomplishment of the school's goals and the vitality of the entire enterprise are the day-to-day interrelationships among its many people as they go about their work—faculty, students, staff, and patients. Organization and structure are necessary components of the Medical School, but it is a dedicated staff which makes the structure effective and viable. We are especially pleased that medical students are increasingly interested and involved in the policies concerned with their own education, as indicated by student representation on the several standing committees of the Medical School Executive Faculty."

Admissions

A Predictor Index in the Selection of Medical Students

William Schofield, Ph.D.*

THE studies reviewed here had their inception at Minnesota in 1954 and were initiated primarily because of concern for the number of advanced medical students who developed disabling symptoms of emotional distress or loss of motivation to continue their studies. After extended discussion by the Medical School Administration and staff, it was decided to administer certain tests to all applicants. The purpose of these tests was to provide an objective screening for (1) *stability and maturity of personality*, (2) *appropriateness of vocational interest pattern to a medical career*, and (3) *adequacy of intellectual aptitude for graduate level studies*. The "Minnesota Battery" is comprised of the *Minnesota Multiphasic Personality Inventory* (MMPI), the *Strong Vocational Interest Blank* (SVIB), and the *Miller Analogies Test* (MAT). These were judged to be the best standardized tests available to yield, respectively, a screening for emotional health, vocational interest patterns, and scholastic aptitude.



William Schofield

The well-known MMPI is essentially a standardized psychiatric "interview" in which the subject's responses to 550 items are scored against norms for nine empirical clinical scales that reveal the degree to which hypochondriacal, depressive, psychopathic or other tendencies are present. In recent years, the proportion of applicants producing unfavorable personality profiles has averaged less than 5% of the applicant pool. A deviant MMPI profile is never a basis for rejection, but rather is followed up by a psychiatrist's appraisal or a committee interview.

The SVIB is an empirically constructed test that measures the similarity of an applicant's activity preferences and social orientation to those of criterion groups of men in a wide-range of professions and occupations. Scales are provided for such occupations as:

* Professor, Division of Clinical Psychology

Dr Schofield has served as a consultant to the Medical School's Committee on Admissions since 1954.

artist, architect, physician, dentist, veterinarian, chemist, mathematician, science teacher, social worker, minister, life insurance salesman, bank president, author, lawyer, and many others. Follow-up studies have indicated that persons who have elected work that is consistent with their measured interest pattern are much more likely to remain in that occupation and to find satisfaction in it. The proportion of medical applicants with SVIB profiles judged to be unfavorable is generally less than 15%. The importance of the SVIB screening is suggested by the finding that of 29 medical school drop-outs at Minnesota between 1954-1959, seven or nearly one-fourth had unfavorable profiles.

The MAT is a widely used measure of scholastic ability at the graduate level and taps a composite of vocabulary and analytic reasoning skills.

Beginning with the class selected for admission in 1955, the Admissions Committee had available for each applicant the results of the above tests together with scores of the Medical College Aptitude Test (MCAT), the pre-medical grade-point average (GPA), and the usual biographical data, medical examination, and references.

The MCAT is a nationally standardized test which is administered under the auspices of the Association of American Medical Colleges. It consists of four sections, each providing a separate score: *Verbal*, *Quantitative*, *General Information*, and *Science*. Experience both locally and nationally indicates that admissions officers pay most attention to the Quantitative and Science scores.

Selection Procedure

The selection process proceeds as follows. After an administrative screening for completeness and a check on any special deficiencies, each application is reviewed independently and in detail by two members of the committee. These initial reviewers record a judgment that the application is "acceptable," "not acceptable" or "borderline" (*i.e.*, not a clear "accept" but worthy of serious consideration). Following this detailed review, all applications are presented to the assembled committee at which time the two initial reviewers summarize their impressions. Following discussion a formal committee vote determines final action on the application.

Prior to committee review, an applicant may be requested to appear for an interview. Depending upon the nature of the questions raised by the application data, this may be a committee in-

terview, an interview with a member of the Dean's staff, or a psychiatric interview. Requests for psychiatric appraisal stem most frequently from the MMPI profile.

Pool of Information

The application file comprises approximately 25 discrete "bits of information," of varying degrees of reliability (*cf.* age and grade-point average vs. letters of reference) and of varying levels of validity as indices of probable medical school success (*cf.* MCAT scores vs. applicant's appraisal of his motivation and aspiration).

The deliberations of the Admissions Committee represent the efforts of a "jury" to assimilate, weigh, and integrate this sizable complex of data, quantitative and qualitative, and to arrive at a hopefully reliable clinical judgment. *The selection of an applicant for admission is in fact a prediction that he will perform satisfactorily.*

Predictor-Criterion Relationships

In order to provide the committee with information as to the relative validity of certain of the variables utilized in their judgments, a statistical analysis was made of certain predictor-criterion relationships. The samples for this study were provided by the classes of 1959 and 1960. Criterion measures were the academic achievement scores obtained in the freshman, sophomore, and combined basic science years. Predictor variables included the pre-medical GPA, the MCAT scores, high school rank, and scores on the American Council on Education (ACE) scholastic aptitude test, the Cooperative English Test, and the Miller Analogies. Because previous studies have suggested that predictor-criterion relationships for subjects with deviant personality profiles differ from those for "normal" subjects, a separate inter-correlation matrix was prepared for those students who had "unfavorable" readings on either the MMPI or SVIB. A sample of the obtained relationships are reported in Table 1. It may be noted that for the sample with *unfavorable* SVIB or MMPI profiles, the strongest *single* predictor is the pre-medical GPA and this value exceeds that found in the "clear" group. For those with both profiles favorable, the MCAT predicts somewhat better than GPA, and this relationship is slightly greater than that found in the "unfavorable" sample.

Table 1

Correlations of Selected Predictor Variables with a Weighted Freshman-Sophomore Grade-Point Ratio for Students with Favorable and Unfavorable MMPIs and SVIBs for Class of 1959-1960.

Predictor	Both Tests Favorable (N=142)	Either or Both Unfavorable (N=91)
A.C.E. ....	.153	.264
High School Rank .....	.177	.308
GPA - Total .....	.314	.417
Miller .....	.194	.387
MCAT - Mean .....	.374	.358

Various combinations of predictor variables were examined in a search for an optimal equation to predict basic science performance. It was found that multiple linear regression equations using pre-medical GPA and MCAT mean score yielded correlations with the freshman-sophomore achievement scores of .48 and .50 in the two samples. Cross-validation on the class of 1961 yielded multiple correlation coefficients of .54 and .52 respectively. The literature on academic achievement suggests a value of .60 as the upper limit for such coefficients.

Table 2 reports the regression coefficients for each of the two equations. While previous academic *performance* (GPA) provides the best single predictor, as has been found in the great bulk of similar studies, variations in the intercorrelations of achievement and aptitude variables as a function of personality and motivational factors, leads to a *relative* devaluation of aptitude measures (MCAT) in predicting performance of applicants whose MMPI or SVIB profiles are deviant.

Table 2
Multiple Regression Weights
for Prediction of Basic Science Grades

Fr-Soph Grades	"Favorable" Group	MCAT Mean	GPA Total	Constant
	"Questionable" Group	1.56	1.76	4070
		1.40	2.71	3959

Predictor Index

By use of the appropriate equation, a predictor index (PI) can now be derived for each applicant. This permits the previous academic record and the measured aptitude of applicants to be appraised reliably and for an "order of merit" to be established which is more consistent than can be arrived at clinically. The PI also permits ordering of the agenda of the committee so that the most promising candidates may be reviewed and accepted ahead of less promising applicants.

A very recent study has investigated the degree to which committee review and clinical assessment result in a selection of students who perform differently from those selected by a modified actuarial approach. In brief, two-thirds of the class of 1970 were selected by the usual committee procedures. The remaining third, following administrative screening and balancing for proportions of non-residents and females, was selected exclusively on the basis of the predictor index without committee review and discussion. *Performance as measured by freshman, sophomore, and combined two-year achievement scores has been found to be essentially the same for the two samples.* This finding is consistent with the research literature on selection and prediction; clinical prediction is usually inferior to actuarial method and, at best, approximates actuarial results. It reflects the fact that despite the sizable amount of information available to the committee, the GPA and MCAT are the predominantly determining variables in a majority of their individual judgments, apart from policy considerations involving such matters as residency. Also, this finding indicates that an optimal use of the predictor index in addition to providing sizable economy, primarily in saving of expensive staff time, can assure medical school classes that represent the best possible selection from each applicant pool.

It must be recognized that academic performance in the basic science years is only one of several criteria which might be used to validate our selection process. It is primary, however, in the sense of expressing a hurdle that precedes an opportunity to display clinical aptitude and skills. Also, the basic science grade-point average has been found generally to have a considerably higher reliability than faculty judgments recorded in the clinical years. When more extensive and reliable measurements are made of clinical performance we will be able to look for associated predictors. These are not likely to be found among the measures that sample chiefly cognitive-intellectual factors. A pilot study is now underway to discover applicant variables that may differentiate those students who select a family practice career from those who choose other specialties.

Veterinary Medicine

ANIMAL LEUKEMIAS—MODEL SYSTEMS FOR STUDY IN HUMANS

Dale K. Sorensen, D.V.M., Ph.D.*

LEUKEMIA apparently occurs in one form or another in all animals—domestic, laboratory, and wild species.

Animal leukemias have been recognized since 1870 and subsequently have been well described, but little information has emerged on the epidemiology, etiology, and/or effective therapeutic measures. Today, veterinary scientists are considerably more interested in research on animal leukemias.

Leukemia in our food producing animals such as cattle also provides an economic basis for increased study. It has been estimated that the direct economic loss to the cattle industry in the United States exceeds \$3 million per year. Another important reason for such research lies in its potential value as animal model systems for comparative leukemia research.

Use of animal model systems for leukemia research received a great impetus in 1964, when Congress appropriated \$10,000,000 to the National Cancer Institute for an intensified program in virus-leukemia research. This bolstered the approximately \$28 million N.C.I. annual budget for leukemia research, assuring an intensified, coordinated Special Virus-Leukemia Program. The research program was divided into four major areas of effort: human leukemia etiology and prevention; special animal leukemia ecology studies; human leukemia therapy; and biohazards control and containment. The similarities between the disease in man and animals prompted a major effort of research on the etiologic factors of animal leukemias. We have been studying leukemia in cattle for the past ten years at the College of Veterinary Medicine, University of Minnesota. It is perhaps appropriate to comment on the terminology used to refer to this disease. The most common names are leukemia, leukosis, lymphosarcoma and lymphoma. This report uses the term leukemia. Not all cases are leukemic, some have normal leukocyte counts and some are subleukemic.

* Professor and Head, Department of Veterinary Medicine, College of Veterinary Medicine, University of Minnesota.

Presented to the staff meeting of University of Minnesota Hospitals on January 3, 1969.

Feline Leukemia

Leukemia in cats is a prevalent neoplastic disease, particularly in metropolitan areas. Clinically and pathologically it has been divided into 3 forms: thymic, local lymphatic and generalized lymphadenopathy. It has much in common with murine leukemia.

The viral etiology of leukemia of cats has been rather conclusively demonstrated. Jarrett of Scotland was the first to transmit this disease. Subsequently Drs. Rickard of Cornell and Theilen of the University of California have successfully transmitted leukemia in cats with cell free inocula. The latency period ranges from 30 to 114 days with a median of about 60 days. The disease can be transmitted regularly and has been successful through seven passages. Electron microscopic studies have demonstrated typical "C type" particles in natural occurring spontaneous cases. The particles are prevalent in the megakaryocytes in bone marrow and in tumor tissue. Particles are also present in the plasma in both spontaneous and experimental cases.

Preliminary immunologic studies suggest that there is a group specific antigen in common with Rauscher leukemia virus. It is also interesting to note that no specifically genetically defined group of animals are necessary for transmission studies. Studies to date indicate that nearly all young kittens are susceptible when inoculated.

Canine Leukemia

The dog also is subject to neoplastic diseases of the lymphoreticular tissue. The majority of cases fall into two forms either lymphocytic or myeloid leukemia. The lymphocytic form is most common and is a relatively common malignancy of dogs. It is also interesting to note that a Hodgkins-like disease has also been observed in the dog. The Boxer breed has been accused of being a very susceptible breed since greater numbers of lymphomas are found in this breed but definitive studies with known populations have not been conducted.

Considerable effort has been put into etiologic studies on canine leukemia. To my knowledge "C type" particles have not been consistently demonstrated and the disease has not been transmitted. There have been some successful transplants but this procedure has also been difficult. So, the etiology still remains a mystery at the present time.

Swine Leukemia

The disease has been reported on several occasions but is relatively uncommon. The reasons for its low incidence are not

known. Clinically and pathologically the disease is similar in many respects to the disease in cattle. Both lymphoid and myeloid forms are found in swine but the lymphocytic form is most common. The juvenile form is recognized and characterized by a bilateral symmetry and generalized lymphadenopathy. This juvenile form occurs primarily in animals from 2 to 6 months of age. The adult multicentric form is also recognized. It occurs primarily in older swine and the lymphadenopathy is usually asymmetrical and practically any organ may also be involved. Perhaps a reason for its low prevalence is that most swine are slaughtered at a rather young age and the population at risk of older animals is rather small.

The disease has been described but little work has been done on the etiology. Case and Simon attempted to transmit the disease experimentally in day old pigs by inoculating them with cell suspensions of tumor tissue. Twelve to eighteen months later the animals were sacrificed and there were no lesions of lymphosarcoma although the authors reported some lymphoid hyperplasia. We attempted a similar study two years ago except we inoculated fetuses at about the 45th day of pregnancy. These animals were sacrificed at 12 to 16 months of age with no evidence of leukemia. There has been no extensive research effort to look for viral particles and to study the etiology of swine leukemia.

Equine Leukemia

Leukemia has also been reported in horses. The disease is relatively uncommon in this species despite the fact that horses are allowed to live to older ages. The disease is similar to the adult multicentric form of cattle which will be discussed later. Very little research is currently being conducted on this disease in horses. Both myeloid and lymphoid forms of the disease occur in horses.

Bovine Leukemia

Leukemia with the exception of squamous cell carcinoma of the eye is the most common neoplastic disease which occurs in cattle. Lymphocytic leukemia is the only type of leukemia which is observed in cattle. Four clinical forms of the disease are recognized.

The juvenile or calf form is seen in calves from birth to approximately six months of age. The disease is characterized by generalized lymphadenopathy and bilateral symmetry of the enlarged lymph nodes. The bone marrow is consistently involved. Clinical signs include lymphadenopathy, loss of weight, depression, fever,

and secondary infections. The course is short, death usually occurring within 45 days of the onset of clinical signs.

The thymic-lymphosarcoma form is a consistent clinical form of leukemia occurring in young animals from 6 months to 2½ years of age. It is characterized by tumor involvement of the thymus and associated tissues.

The skin form is an uncommon form rarely occurring in this country, characterized by tumor involvement of the skin. It is more common in the Danish breeds of cattle in Denmark.

The adult multicentric form of leukemia occurs in animals usually over 2 years of age. It is characterized by variable clinical and pathologic manifestations. Clinical data was collected on 1,163 cases and the predominant clinical signs include palpable lymphadenopathy, loss of weight, exophthalmos, posterior paresis, loss of milk production, decreased appetite and fever. The course of the disease ranges from 10 to 270 days with a mean of approximately 60 days. Lymphosarcoma is the most common pathologic type seen. Any lymph node of the body may be involved but the iliac lymph nodes appear to be most frequently involved. Nearly all organs and tissue may be involved but the heart is most frequently infiltrated and heart failure is one of the ultimate causes of death.

Hematologic studies of a large number of cases reveal that approximately 25% of the clinical cases have an elevated absolute lymphocyte count and are leukemic. Approximately 65% of the cases are either leukemic or have malignant appearing lymphocytes present in the peripheral blood.

A preclinical or prodromal stage of the adult form of leukemia is also recognized. This stage is characterized only by the development of a persistent lymphocytosis of the peripheral blood. The lymphocytosis is usually first recognized in animals 3 to 5 years of age, is persistent and may terminate in the tumorous form of the disease. In a prospective study in Minnesota 19 of 20 animals which developed the tumorous form of the disease had a persistent lymphocytosis for varying periods of time prior to the development of tumors. Our research team has postulated that a persistent lymphocytosis in adult cattle is very similar to the development of chronic lymphocytic leukemia of man. This concept has been supported by Dr. Cronkite of Brookhaven National Laboratory.

IN MINNESOTA

Epidemiologic studies of bovine leukemia in Minnesota have shown that geographic variation in the incidence occurs. The incidence has varied from 36.7 per 100,000 animals at risk for Rice

County to 5.0 per 100,000 for Goodhue County. Other variations in incidence have been noted.

Leukemia is much more prevalent in dairy breeds than beef breeds of animals. Age is also significantly associated with incidence. For the state of Minnesota, the incidence values of 12.9, 26.2, and 29.4 per 100,000 animals at risk applies to the age categories 2 to 5, 6 to 9, and 10 years old and older. Of considerable interest is the variation in incidence associated with herd size. This was highly significant and ranged from 11.1 per 100,000 animals at risk for herds of 1 to 9 milking animals to 48.9 per 100,000 at risk for herds of 50 animals or more. This variation in incidence associated with herd size is consistent with a disease model involving a transmissible agent; the age variation, that of an extended latent period. The dairy breed—beef breed variation suggests the influence of management or genetic factors on the transmission or induction of the clinical disease.

Most investigators working on bovine leukemia believe that it is a virus-induced neoplasm. To prove this hypothesis a large number of workers have been attempting to transmit the disease or provide other evidence of a viral etiology such as demonstration of "C" type particles or isolate virus. No one has yet been able to transmit the disease with cell free material although Gotze et al. was able to prove the transmissibility of the disease with cellular material. Five of 17 animals developed tumors within 9 years after inoculation. Dr. Dutta, a member of our research team has been attempting to demonstrate "C" type particles in tissues from leukemic animals or animals with a persistent lymphocytosis which we postulate to be in the prodromal stage of leukemia. To date he has not seen any virus particles in leukemic animals but he has been able to demonstrate some "C" type particles in the plasma of these lymphocytotic animals. Further work of course is necessary to evaluate this finding.

SUMMARY

In summary, research on animal leukemias have resulted in further support for the hypothesis that leukemias are virus induced neoplasms. We believe that there are many similarities between lymphocytic leukemia of cattle and lymphocytic leukemia of man.

Reprints of this article may be ordered from the Minnesota Medical Foundation.

STUDENT HEALTH ORGANIZATION

An Invitation and a Challenge

Bernard E. Statland, M.D.*



Bernard E. Statland

At a midwinter meeting, in the underground tunnel between Mayo and Diehl Hall, about 40 students—mainly from the Medical School—organized the Minnesota chapter of SHO (Student Health Organization). The group's first month of life was marked with committee assignments in the areas of: (1) curriculum revision; (2) admission of racial minority students to the health sciences; and (3) printing of a regular newsletter. Today, SHO, having survived its initial "birth pains," is beginning to realize its role: *to give health students a greater interest in our professions, an involvement in the needs of our community, and a concern about the dispensing of medical care.*

SHO consists of interested students from the medical, dental, nursing, public health, pharmacy, veterinary medicine, and public health nursing schools. The team concept of providing medical care should involve the professionals of each of the health disciplines. So too as students must we develop the habit of working in concert with our allied health professions. SHO intends to exemplify the perfect setting for practice of this team concept.

It has been the philosophy of SHO to first become aware of the health problems, then to think them out, and if necessary, to present alternatives to the "ongoing way of doing things." Rather than merely condemning the older structures which need replacement, we have made concrete proposals and presented them in an orderly manner to administration and faculty of the health science units. Our activities have included the following: (1) regular forums; (2) community health involvement; (3) Black admissions to the health sciences; and (4) curriculum revision.

Regular Forums:

Spring quarter will mark the beginning of a series of forums entitled "Medicine in Society." Leading national and local figures

* Dr. Statland received his MD degree from the Medical School in 1968, and is presently a Ph.D candidate in the Department of Biochemistry. His remarks were presented at the Staff Meeting of University Hospitals on February 21, 1969.

will be invited to discuss the role of medicine and how it relates to the wider community around us. On March 26, Dr. James Whittico, Jr., President of the National Medical Association, gave a guest lecture on the topic, "The Negro in Medicine." Later this Spring SHO will sponsor a series of symposia on the health manpower shortage in Minnesota and possible solutions to that need.

Community Health:

SHO's involvement in "community health" is still only in the planning stage. We hope to actively assist in Minneapolis' Pilot City Health Center in the Northside. Some of us have volunteered to participate in tutorial programs at *The Way* or CCC or in bio-science career programs in the junior and senior high schools. In addition, other SHO members hope to function as "health advocates" or "ombudsmen" for assigned families.

Racial Minority Admissions to the Health Sciences:

This Spring the executive faculty of the Medical School will decide the fate of a proposed program for ethnic minority students in the health science schools. SHO has played an active role as "friendly lobbyists" in presenting background information to the faculty and trying to persuade them to adopt the proposal. The SHO position paper says in part:

"Whereas the black people constitute over 11% of the population, they only comprise 2.2% of the nation's doctors; and of the more than 8,000 annual graduates from U.S. medical school, only 200 or 2.5% are black. The situation at Minnesota is still far worse—one Negro and no Indians in a Medical School of over 600—no Indians or Negroes have graduated from Dental School in many decades. . . . Four specific areas must be considered in trying to resolve this difficult problem: (1) recruitment, (2) criteria for admission, (3) financial aids, and (4) innovative programs. Recruitment means going to the junior and senior high schools and to the undergraduate schools and informing them about the health professions. Criteria for admission should involve personal interviews as well as the quantitative GPA and MCAT scores. Financial aid in terms of complete tuition stipends should be made available for many of the racial minority students. Innovative programs include student-faculty tutorials and a more flexible curriculum in the health science schools."

Curriculum Revision:

SHO has presented to the School of Public Health a suggested list of lectures and lecturers to be incorporated in the Public

Health 100 course given to the sophomore medical students. The proposal stated:

"This department's course is the logical place for an introduction to community-oriented medical practice and its discipline can be unique to a medical school curriculum; *i.e.*, a holistic and personal, rather than a disease-entity orientation. In order to provide this experience with contemporary problems, the following list of topics is presented: orientation lecture, community mental health, medical sociology, neighborhood health centers, urban health problems, demographic considerations (malnutrition, mass sterilization, and therapeutic abortion), drug abuse and alcoholism, international health programs, geriatrics, and state medical legislation."

SHO does not command a strong financial base nor a permanent organizational structure; however, this rather undisciplined and flexible nature has paradoxically been its source of strength. We have been able to meet often in small and in large groups and been able to get things down in an amazingly short time. The Latin abbreviation *PRN* (Pro Re Nata . . . "as circumstances indicate") is also the name of our biweekly newsletter. This expression probably best symbolizes the mood and spirit of SHO—an organization of health students trying *to relate to the problems around us as and when the circumstances indicate.*



Faculty News

Dr. M. Michael Eisenberg was appointed professor of surgery at the University of Minnesota and chief of surgery at Mount Sinai Hospital, Minneapolis, under the Medical School's training program with affiliated hospitals. He is responsible for a full time University teaching service at Mt. Sinai, according to Dr. John S. Najarian, head of surgery at the University of Minnesota.

Dr. Eisenberg came to Minnesota from the surgery department of the University of Florida. His appointment will allow larger numbers of University medical students and residents to take part of their training at Mt. Sinai. Dr. Eisenberg, 37, is a native of New York City and graduate of Harvard Medical School. He took his internship and surgical training at Peter Bent Brigham Hospital, Boston.

PEDIATRICS

Dr. Heinz W. Berendes, who was on the Medical Center Staff in the late 1950's, returned to Minnesota July 1, 1968 to become an associate professor of pediatrics at the Medical School, and director of an intensive care unit for premature, high risk, and sick newborn infants at Fairview Hospital, Minneapolis. Dr. Berendes, 43, was chief of the Perinatal Research Branch, NINDB, Bethesda, Md.

ANESTHESIOLOGY

Dr. Frederick H. Van Bergen is president of the Academy of Anesthesiology, and presided over that group's meeting late last year in 1968 held in Quebec City, Quebec. Dr. Joseph J. Buckley, a fellow professor at Minnesota, was elected to the organization's Executive Council.

ANATOMY

Dr. Arnold Lazarow, professor and head, recently delivered the annual *Rollin Turner Woodyatt Memorial Lecture* at Evanston, Ill., at the Symposium of the Diabetes Association of Greater Chicago. His topic was "The Islets of Langerhans and the Etiology of Diabetes."

Dr. Anna-Mary Carpenter, professor, was awarded an honorary D.Sc. degree on June 4, 1968 by the Geneva College, Beaver Falls, Pa.

MICROBIOLOGY

Dr. Robert A. Good, professor of microbiology and pediatrics, was recipient of the first annual *Squibb Award* of the Infectious Diseases Society of America. He was honored for "excellence of achievement in the field of immunology."

Alumni Notes

△ 1909

Stanley R. Maxeiner, Sr. was honored at a dinner on January 13, 1969, as recipient of the 1969 *St. Barnabas Bowl award*. He is now retired after six decades of practice, including 35 years with the Minneapolis V.A. Hospital, in the field of surgery. Dr. Maxeiner is clinical professor emeritus at the University of Minnesota, and is especially remembered for his teaching and research in surgery and anesthesiology.

△ 1924

Frederick Ebersson, clinical professor of Community Medicine at the University of Kentucky, Lexington, is the author of a book and a scientific article published in 1968. His 121-page book is titled *Portraits: Kentucky Pioneers in Community Health and Medicine*, and was published by the Kentucky TB and Respiratory Disease Association. Dr. Ebersson also had an article in *JAMA*, Dec., 1968, titled *Community Medicine Comes of Age*.

△ 1929

Hilbert Mark, Toledo, O., was chosen president-elect of the Association of Ohio Health Commissioners at the annual meeting of the Ohio Department of Health.

△ 1936

George N. Aagaard, professor of medicine and head of clinical pharmacology at the University of Washington, has been given additional duties at that institution. In a new and rare role in higher education, Dr. Aagaard was named Ombudsman at the University, with responsibilities as a problem solver and protector of rights and interests of individuals on the campus.

△ 1943

Joseph Jorgens is currently chief of radiology at Wadsworth V.A. Hospital, Los Angeles, Calif., with appointment as professor of radiology at the UCLA Medical School. Joe served as radiology chief at Minneapolis V.A. hospital from 1952 to 1968, building a large radiology residency training program which was affiliated with the University of Minnesota.

△ 1944

Claude R. Hitchcock, chief of surgery at Hennepin County General Hospital, Minneapolis, was named recipient of the 1968 *Francis Harrington Award* for outstanding contributions to the field of public health in the Twin Cities. The Minneapolis Jaycees confer the award annually in honor of Francis E. Harrington, former Minneapolis Commissioner of Health.

△ 1946

Stuart D. Kustermann has a new assignment as associate pathologist at Mercy Hospital, Council Bluffs, Ia. He was formerly on the faculty of Creighton University Medical School.

△ 1947

Marvin D. Siperstein was among the 1969 winners of *Distinguished Achievement Awards* by Modern Medicine Publications. He is professor of internal medicine at Southwestern Medical School, Dallas, Tex., and was cited for his extensive diabetes and cancer research work.



M. D. Siperstein

△ 1948

Jeanne D. Diefenbach of Minneapolis comments on the Class of 1948 Survey published here last month: ". . . among the deceased, a couple of omissions, **Norbert Blochowiak** and **Bill Taylor** . . . and don't think **John Raatama** was even in our class."

Editor's note: Accurate observations. Blochowiak ('48) is deceased, as is William E. Taylor ('48). Neither was listed. However, J. Webster Raatama (also deceased) did graduate in '48, although he enrolled in Medical School prior to World War II.

△ 1948

Charles A. Neumeister of Minneapolis was elected president of the Hennepin County Medical Society for 1969-70. He is currently treasurer of the Minnesota State Medical Association, Chairman of the Board of Minnesota Blue Shield, and a trustee of the Minnesota Medical Foundation.

In a recent survey, published in the HCMS BULLETIN, it was revealed that of 1,435 member physicians of HCMS, 880 (61%) are graduates of the University of Minnesota Medical School.

△ 1954

The Southern California Radiation Therapy Society enjoys the leadership of several medical alumni, including **Aaron G. Fingerhut**, Torrance, Calif., who is president. **Arthur G. Litman** ('52) is secretary-treasurer. Past presidents include **Joseph E. Scallon** ('52), and **William C. Johnson** ('56).

△ 1955

Dennis J. Kane has been appointed vice president and medical director of North American Life and Casualty Co., a major insurance company located in Minneapolis. He will head the Medical Department and be responsible for medical underwriting of life and health insurance.



Dennis Kane

Dr. Kane was formerly in private practice of internal medicine in Minneapolis, and received the Ph.D from the University, where he is also on the clinical staff. He is a trustee of the Minnesota Medical Foundation.

△ 1956

Gene Savelkoul was honored by citizens of Belgrade, Minn. this past winter for his devotion to medical practice in that community. His Appreciation Day event was reported in a feature article in the *Minneapolis Tribune* on January 19, 1969. (The MEDICAL BULLETIN erred in a reference to this event in the January issue — Sorry, ed.)

△ 1961

Through the years the Medical School of the University of Minnesota has regularly supplied a significant contribution to the list of those occupying teaching positions in Dermatology in the United States and Canada but the class of 1961 has already provided more than its expected share, six of its graduates now holding significant teaching positions. Engaged in full time academic pursuits are: **H. Irving Katz**, at the University of Minnesota; **Peter J. Lynch**, at the University of Michigan; and **Franklin Pass** at Albert Einstein College of Medicine. **Edward Peterka** was for a time in a full time teaching capacity at the University of Colorado but has more recently moved to Illinois and has a part time association at the University of Illinois. As part time faculty members **David W. Anderson**, of St. Paul and **Bruce J. Bart**, of Minneapolis, participate at least three times weekly in the teaching program of our own school.

△ 1963

Maj. Paul Engstrom is chief of the oncology service at Tripler Army Hospital, Honolulu, Hawaii. He and his wife, Janet, and two daughters expect to return to Minneapolis in 1970. Tripler Hospital doctors were awarded a special citation for their skilled care of the 85 sailors injured during the recent disastrous fire aboard the *U.S.S. Enterprise*.

BOOK REVIEW

MASTERS OF MEDICINE

J. Arthur Myers

MASTERS OF MEDICINE, An Historical Sketch of the College of Medical Sciences, University of Minnesota, 1888-1966, by Jay Arthur Myers, M.D. Published by Warren H. Green, Inc., 10 S. Brentwood Blvd., St. Louis, Mo. 63105. Price: \$15.00 (hardbound), \$10.00 (paperbound). 942 pp., 1968, Copyright—Minnesota Medical Foundation.

Review of this monumental work by Dr. Myers would have been much easier for me to do had it not been for the long time friendship which the reviewer has had with the author. Another factor has entered into this review, which may color it a good deal, and that is the great love which the reviewer has for his *Alma Mater*.

Needless to say, I was very happy to be asked to review this book, even though I knew it would present certain obstacles, which have been mentioned. I must say that I have devoured each word with great relish not only for the reasons previously discussed, but also because my father, Prosper Ernest Sheppard, was a member of the first full time graduating Class of 1891. My father was a great reader of history, and would have enjoyed Dr. Myers' very detailed account a great deal.

MASTERS OF MEDICINE is a minute dissection of the story of the growth of a great medical school. In this "sketch," as it is termed, Dr. Myers tells all about the physical growth of the College of Medical Sciences, but, more importantly, writes at some length about the people who have made it one of the greatest schools in this country. He tells of the roles which various University Presidents have had in its development, then goes on to describe how the Deans have each made important impacts on the continued expansion of the Medical School.

He has carried out his self-imposed task with his usual tremendous tact and good humor, glossing over some of the more unpleasant scraps and squabbles which have been known to occur amongst some of the "empire building" Heads of Departments, in a most gracious and forgiving manner. He has succeeded in doing this while at the same time admitting to the turmoil which inevitably accompanies the expansion of separate departments headed by extremely talented, highly individualistic physicians. Our College of Medical Sciences, together with the Board of Regents, has established a surprising number of "firsts" in this coun-

try; the first School of Nursing associated with a Medical School; the first to require internships for graduation, to mention a few.

The last half of *MASTERS* concerns itself with the separate departments of the College of Medical Sciences, and finally he pays tribute to the broad vision for the future to the Board of Regents and Dean Robert B. Howard. To anyone interested in the history of Minnesota Medicine, this book is a "must" possession. It pulls together into a single volume information which has heretofore been scattered about in numerous medical journals, newspapers, minutes, and other periodicals. The physicians of Minnesota, and especially those of us who are natives to this great state of ours, should feel very indebted to Dr. Myers for his painstaking compilation of interesting facts as well as figures concerning our Medical Heritage.

—CHARLES G. SHEPPARD (Med. '35)
LeSueur, Minn.

NOTICE TO ALUMNI NEWSMAKERS

Send your personal news to the *MEDICAL BULLETIN* on the form below. Your contribution to "Alumni Notes" will be welcome.

Name _____

Address _____

Class of _____

Detach and mail to: The Editor

University of Minnesota *MEDICAL BULLETIN*
1342 Mayo Memorial
University of Minnesota
Minneapolis, Minnesota 55455

**DR. WALLACE P. RITCHIE, SR. DIES;
MEMORIAL LECTURESHIP ESTABLISHED**

Dr. Wallace P. Ritchie, Sr., widely known St. Paul neurosurgeon, died January 22, 1969 at the age of 63 years. He was a student and associate of the late Dr. William T. Peyton at the University of Minnesota, and rose to become a clinical professor of neurosurgery at the Medical School.

Dr. Ritchie was the son of Dr. Harry Parks Ritchie, and was in general surgery practice with his father before World War II in St. Paul. He was a grandson of Dr. A. Parks Ritchie, second Dean of the University of Minnesota Medical School (1897-1906). The line of Ritchie surgeons continues at the Medical School where Dr. Wallace P. Ritchie, Jr., is now a resident in surgery.



Wallace P. Ritchie

During World War II, Dr. Ritchie served 33 months as a neurosurgeon and was Chief of the service with the 26th General Army Hospital (Minnesota Unit) in Europe. He was chief neurosurgeon at Ancker Hospital, St. Paul, and an active participant in St. Paul civic affairs. He was past president of the Minnesota Surgical Society, Ramsey County Medical Society, St. Paul Surgical Society, Minnesota Society of Neurological Sciences, and the Minnesota Academy of Medicine (1967-68). He served 18 years as a trustee of Macalester College and the St. Paul Academy, and co-founded the *Colvin Memorial Fund* at Ancker Hospital, St. Paul.

Dr. Ritchie was a graduate of Yale University, received the MD from Johns Hopkins in 1931, and interned at Union Hospital in Baltimore, Md. He spent four years in general surgery under Dr. O. H. Wangenstein at the University, receiving the M.S. degree, and contributed heavily to the medical literature over the years.

Survivors include his widow, Mrs. Alice Ritchie, 736 Goodrich Ave., St. Paul, and three sons, Wallace P., Jr.; J. Timothy, and David G. Ritchie.

Dr. Ritchie's family is directing memorials to the Minnesota Medical Foundation for the WALLACE P. RITCHIE MEMORIAL LECTURESHIP IN NEUROSURGERY. The memorial is planned as a perpetual endowment. Gifts may be sent c/o the Foundation, Box 193, University Hospitals, Minneapolis, Minn. 55455.

Alumni Deaths



Clyde Gray

Clyde Edward Gray/1903

Died February 27, 1969 at age 89 years in Tacoma, Wash., where he lived in retirement with his wife. Dr. Gray practiced 18 years in Rush City, Minn., prior to a lengthy career in Tacoma, and was a member of the 50 Year Club of the Minnesota State Medical Association. He retired in 1955 and was very active in his later years in golf, fishing, and other outdoor activities in Washington.

John W. Stuhr/1917

Died July 30, 1968 in Stillwater, Minn., where he had practiced many years. He was 85 years old, and a veteran of World War I.

William D. Cleaves/1940

Died October 21, 1968 of injuries received in an auto accident.

He was 52 years old and in general practice in Sauk Centre, Minn. Dr. Cleaves served in the Air Force during World War II. He is survived by his wife, who resides at 406 Ash St., Sauk Centre. The community is hopeful of obtaining a physician who will assume Dr. Cleaves' practice in the newly-built Sauk Centre Clinic.

MEMORIALS

Gifts have been received recently by the Minnesota Medical Foundation in memory of the following:

Clifton Anderson

Mrs. Helen Bundy

Morris Fineberg

Charles Gallaher

R. L. Jack Hill

Pfc. Aaron James Crawford

Mrs. Marie Kornick

Russell Lego, Sr.

Thomas Lubitz

Dr. Ralph V. Platou

Dr. Wallace P. Ritchie, Sr.

Hazel Roberts

Mrs. Dulcie Stephens

Memorial gifts are a thoughtful means of honoring the memory of a relative, friend, or colleague. Gifts may be designated for specific purposes. The Minnesota Medical Foundation acknowledges all gifts to both donor and next of kin.

LETTERS

ITEM

Last month's MEDICAL BULLETIN reported some startling news about the Alumni Association's Medical Microscope Project: ". . . A donation of \$450.00 provides for purchase of good quality binaural microscope. . . ."

Wrote Howard M. Wikoff (Med. '40), Crookston, Minn.:
"What is a binaural microscope?"

Speechless, the editor asked the Medical Art Dept. to quick, draw us a picture of this wondrous instrument. They did.



Embarrassed editor's note: The word should have been "binocular" microscope. Gifts still welcome, however.

CONTENTS

- ★ CHANGES IN MEDICAL SCHOOL
STRUCTURE 133
- ★ PREDICTOR INDEX FOR MEDICAL
STUDENTS 136
- ★ STUDYING ANIMAL LEUKEMIAS 141
- ★ MINNESOTA'S NEW STUDENT
HEALTH ORGANIZATION 146
- ★ DR. WALLACE P. RITCHIE, SR.
MEMORIAL LECTURESHIP 155



Wallace P. Ritchie, Sr.

IN MEMORIAM