

UNIVERSITY OF MINNESOTA
Graduate School

Minutes, Graduate School Executive Committee
Meeting of June 4, 1984
12:00 noon, Dale Shepherd Room, Campus Club

Present: Faculty representatives--Professors James R. Boen, Jerome W. Hammond, Dale L. Lange, Edward I. Sucoff, David R. Thompson, Gerhard H. Weiss; administrative representatives--Deans Robert Holt, Kenneth Zimmerman; student representatives--Elin Anderson, Kevin Anderson, Stephen Linne, Robert Stevens; Duluth representative--Stephen C. Hedman; Graduate Fellowship Committee representative--Gary R. Gray; Civil Service representative--Patty Solberg (for Paul Larson); staff--Andrew Hein, Myrna Smith; secretary--Vicki Field

I. FOR ACTION

Approval of the Minutes of the May 8, 1984 Meeting

The minutes were approved as submitted.

II. FOR DISCUSSION

A. Graduate Student Financial Aid and Recruitment

Discussion of the report of the Ad Hoc Committee on Graduate Student Financial Aid (Gassman Committee) continued from the May 8 meeting. Dean Holt reported that President Magrath and Vice President Keller have indicated their support for a substantial increase in graduate student financial aid, thus he will submit a request to central administration for \$4.5 - 5 million per annum for graduate student aid, the amount needed to fund the tuition and fee scholarship program recommended by the Gassman Committee. It is hoped that the Graduate School proposal will be included in the University's biennial budget request. In his proposal he will not spell out the mechanism for distributing these additional funds to graduate students, Dean Holt said, however he wishes to devise a mechanism that will make the tuition and fee scholarships tax-exempt. If the program is funded by the legislature, it most likely could not be implemented before fall 1986. Most of the additional funds would go to graduate assistants, in accordance with the Gassman Committee recommendations. Professor Thompson expressed concern that the legislature, in approving the tuition and fee scholarship program, might restrict use of the funds to specific units of the University. Dean Holt did not think this likely, and he pointed out that the strength of all fields is important to the general well-being and economic health of the state. Many disciplines contribute to a particular development which may benefit the state economically, he added. Professor Hedman

inquired if data were being analyzed to aid decision-making in the event the legislature does not endorse the University's request and funding for the program is derived from internal reallocation. Dean Holt replied that Management Planning and Information Services (MPIS) is reviewing relevant data and that the results would be available this summer.

Executive Committee members concurred that Dean Holt should request funding in the amount of \$4.5 - 5 million for a tuition and fee scholarship program along the lines of that sketched by the Gassman Committee. Additional funding should be sought to compensate graduate programs with little or no assistantship support. It was further agreed that the request should not stipulate the mechanism by which the tuition and fee scholarships would be distributed.

The Committee continued discussion from the May 8 meeting of pending federal legislation that would expand graduate students' eligibility for college work-study funds. Dean Holt described changes he foresaw in the way graduate student aid is awarded within the University if the legislation is adopted.

B. Recommendations from the Health Sciences Policy and Review Council Concerning Institutional Policies Governing Integrity in Research

Professor Boen briefly reviewed the history of this issue, which had first come before the Executive Committee in 1983 as a result of an alleged incident involving questionable research practices in an area of the health sciences. The Health Sciences Policy and Review Council subsequently considered the adequacy of guidelines governing honesty in research already formulated by the Association of American Universities Committee on the Integrity of Research, and the Association of American Medical Colleges, and found that these were intended only to aid colleges and universities in drafting institutional policies. Because of the Graduate School's integral role in University research, the Council recommended that the Dean of the Graduate School should take steps to ensure that written University-wide policies and procedures related to the issue of honesty in research are formulated and adopted. The Council further suggested that faculty and administrators broadly representing the University community should be included on a task force to draft the University-wide guidelines. Dean Zimmerman reported that the University Senate Committee on Research is also discussing this issue. Dean Holt said he would consult the new chair of the Senate Committee on Research in the fall to decide whether this committee or the Graduate School should

take the initiative in formulating an all-University policy on integrity in research. (Copies of pertinent material attached with these minutes)

III. FOR DISCUSSION AND/OR ACTION

Proposed Criteria Governing Continued Graduate Faculty Membership for Emeritus Professors

Executive Committee members discussed at length a draft statement defining the terms and conditions of continued graduate faculty membership following retirement. There was consensus that the statement should be revised to clearly stipulate that emeritus professors whose graduate faculty appointments have been extended shall be excluded from participation in faculty governance. Committee members further agreed that a co-adviser should be assigned in the case of an emeritus professor advising a graduate student, and the criteria should indicate this. No rationale was seen for restricting continued graduate faculty membership to the level of appointment held at the time of retirement, and this provision was deleted from the last sentence on page 1 of the draft. Dean Holt said a revised statement would be submitted to the Executive Committee for consideration in the fall.

IV. FOR INFORMATION

A. Update on the Implementation of the New Graduate School Tuition Structure

Dean Holt reported that a meeting of directors of graduate studies had been held on May 23 to discuss questions concerning the recently approved Graduate School tuition structure to be implemented this fall. The most common concern was whether students in the option year (i.e., students admitted to a Graduate School program in fall 1983 through second summer session 1984) should elect to come under the residency requirement. Dean Holt said the Graduate School will provide these students with the information necessary to make this decision. Similar information has already been sent to directors of graduate studies. In response to a query from Mr. Stevens, Dean Holt said an information source will be established in the Graduate School prior to fall quarter registration for students with questions pertaining to the new tuition structure and residency requirement. He would also like to have Dennis Clayton travel to Duluth prior to fall registration to answer students' questions there, Dean Holt stated. In reply to a question from Professor Hedman, Dean Holt said central administration will reach a decision within several weeks regarding tuition for the M.B.A. program. (The School of Management has proposed

that tuition for the M.B.A. remain on a per credit schedule; if the per credit plan is approved for the School of Management, the Graduate School will need to devise a separate formula for converting these credits into quarters of residency.)

B. Report from the Graduate School Fellowship Committee

Attention was called to the results of the Graduate School (first-year) Fellowship competition for 1984-85. Programs in the Physical Sciences and the Plant and Animal Sciences Policy and Review groups experienced higher rates of acceptance this year, Ms. Smith said. As a result, less money is available for Dissertation Fellowships for 1984-85, Professor Gray pointed out. He mentioned that decisions regarding these awards would be made during the week of June 11.

C. Board of Regents Approval of the Requests to Discontinue the M.S. and Ph.D. Degrees in Medicine, the Ph.D. Degree in Pediatrics, and the Ph.D. Degree in Psychiatry

Dean Zimmerman reported that the Board of Regents at their May 11 meeting had approved the disestablishment of these degrees, in accordance with the Graduate School's recommendations. (Copies of pertinent correspondence attached)

D. Update on Pending Degree Program Additions and Deletions

Dean Zimmerman reported that the proposal for a Plan B M.S. degree in Microbial Engineering, approved by the Executive Committee last December, will be forwarded to the Board of Regents for final action in July. The proposed M.A. degree program in East Asian Studies will be given initial consideration by the Regents in June; disestablishment of the Ph.D. degree in Hispanic Linguistics, and of the undesignated M.S. degrees in Anesthesiology and Dermatology, will be brought to the Regents for information in June and action in July. Vice President Keller has requested additional information concerning the proposals for a minor in Neuroscience for the Ph.D. degree and for an M.S. degree in Biomedical Engineering, thus consideration of these two items by the Board of Regents will be delayed until later this summer.

E. Old Business

Professor Thompson inquired if Executive Committee members had received a copy of the Shapiro Committee recommendations as finally approved. Ms. Field replied that they had not, but said a copy of the final document would be mailed.

F. New Business

Mr. Stevens thanked the Graduate School for the new system of monthly graduation, effective this July 1, adding that students greatly appreciate this policy change.

Dean Holt thanked members of the Executive Committee for their hard work during the year. Special thanks were extended to Mr. Stevens as President of the Council of Graduate Students, who has relinquished this position for next year.

The meeting was adjourned.

Respectfully submitted,

Vicki Field
Assistant to the Dean

Policies Regarding Integrity in Research

(For Health Sciences P & R Council Meeting of May 7, 1984)

The Program Review Committee was asked to review policies related to integrity in research at the University of Minnesota and make recommendations to the P & R Council as to their adequacy.

Our Committee could find no evidence that any written policies on this topic exist in the Graduate School, the Health Sciences or the University. Although one hopes that serious allegations of research fraud will never arise at this University, we believe it is important that appropriate written policies be established before any such incidents may occur. To this end, we recommend that the Health Sciences P & R Council forward the following recommendations to the Dean of the Graduate School:

1. The Dean of the Graduate School should take steps to see that University - wide written policies and procedures related to the issue of integrity in research be formulated and adopted.
2. These policies and procedures should be developed considering the guidelines set forth by both the Association of American Universities Committee on the Integrity of Research and the Association of American Medical Colleges, as well as policies which have already been established at other institutions.
3. The policies and procedures formulated should address both the prevention of research fraud and procedures to be followed if allegations are made.
4. The policies and procedures should be formulated by a Task Force of faculty and administrators broadly representing the University Community and including representatives from The Office of Research Administration and the Office of University Attorney.

Report of the Association
of American Universities
Committee on the Integrity of Research

Approved by
The Joint Committee on Health Policy
of
The Association of American Universities
The American Council on Education
and
The National Association of State Universities
and Land-Grant Colleges

Association of American Universities Committee on the Integrity of Research

Chancellor William H. Danforth, Chairman
Washington University

Dr. Struther Arnott
Vice President for Research
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Dr. Richard S. Ross
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Dr. Howard G. Sachs
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Dr. James Anthony Ferrendelli
Professor of Neurology and Pharmacology
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Mr. Cliff K. Travis
University Counsel
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Introduction

Examples of fraud in research have recently been reported in great detail by the media; these reports have raised concern in the public as well as among the scientists. Many concerned citizens have wondered whether such activity has become more prevalent, whether it is being reported more often, whether it can be detected readily, whether institutions are organized appropriately to inquire into alleged frauds, and whether procedures for administering discipline are in place.

On October 20, 1981, the Association of American Universities voted to establish a Working Group on the Integrity of Research. The resolution read in part:

“Incidents of misconduct which raise concern about integrity in scientific research have come to our attention. Although we believe such instances to be rare for such a large enterprise as university research, even rare occurrences are unacceptable.

“The AAU therefore recognizes a need for universities to collaborate with professional societies and related organizations in the examination of the sources of such problems and remedies available to them.”

The working group subsequently appointed by the Executive Committee of the AAU believes that the integrity of the research process is an essential part of our intellectual and social structure and must be maintained at all costs. Although serious violations of honesty in research may be rare, those that do occur strike at the very heart of the enterprise. Advances in knowledge depend on trustworthy data and honestly reported conclusions. Anything less will seriously undermine the total enterprise and erode public confidence in those responsible for its conduct.

The integrity of the research process must depend largely on self-regulation; it is the responsibility of all who engage in the search for knowledge. This principle has served science in an exemplary way for centuries. Advances are gleaned from rigorous application of scientific methods and in compliance with ethical codes rooted in intellectual honesty.

Deviations from the norm—even serious ones—have usually been dealt with informally and quietly. Although these methods may have generally worked well in the past, experience suggests that it is now appropriate to give serious thought to better methods for preventing and detecting irregularities and to the manner in which universities deal with them.

This committee has looked at some of the questions especially important to the operation of academic institutions. We encourage others such as scientific societies, editors, and funding agencies to look at the matter from their own perspectives.

Types of Fraud or Deviance in Academic Research

Deviant actions by researchers may be grouped in four categories—scholarly fraud by falsification of data, plagiarism, abuse of confidentiality, and deliberate violations of regulations.

Falsification of data undermines the basic principle on which the scientific process depends. Since scientific advances depend on accurate collection, analysis, and reporting of information, dishonest reporting misleads others and results in the waste of resources, both human and monetary. If practiced in clinical research, falsification could even be directly dangerous to humans. Falsification of data ranges from sheer fabrication through selective reporting, including the omission of conflicting data.

Plagiarism is especially hurtful to individual researchers since it is an attempt by one individual to receive credit for the work of someone else. Outright plagiarism is generally easily detected in areas of research that are very actively pursued and is, therefore, rare. However, the academic community tolerates more than it should, more subtle deviations from the ideal. Inadequate citation and parsimony in referencing submission of the same data in more than one publication by the same author, and similar abuses, do occur with some regularity.

Abuse of confidentiality is a significant act of fraud in an environment that depends on peer review. It is quite distinct from plagiarism and more difficult to detect since such abuse does not usually involve verbatim duplication of another's work. In the present environment, researchers freely discuss their ideas in research proposals submitted to potential sponsors. Proposals usually include extensive data to support the ideas. The ideas and preliminary data may be reviewed by departmental colleagues, university committees and administrators, as well as extramural professional peers serving on review panels. In addition,

detailed studies are submitted to professional journals and subjected to further review by professional colleagues long in advance of eventual publication. Opportunities to abuse confidentiality arise at many points during these processes. Moreover, abuse of confidentiality can occur not only by the actions of the primary reviewers but also by the actions of those with whom the reviewers have shared the privileged information. In many ways confidentiality is the easiest research ethic to abuse and the most difficult to detect.

Instances of *seemingly deliberate violations of regulations* applicable to research have also become a recent problem. Serious violations, especially of rules adopted by appropriate mechanisms to protect patients, research subjects, other persons, and animals, while not fraudulent in the traditional sense, must be considered so deviant as to undermine the integrity of the research process.

Prevention of Dishonesty in Scientific Research

The rewards associated with success tempt certain individuals into dishonest behavior. Scientific discoveries are rewarded by recognition by peers and, if sufficiently interesting or important, by the general community. In addition, productivity reaps tangible rewards, including career advancement, increase in salary, promotion, election to academic societies, receipt of prizes, funds for additional research, and other benefits. Thus, it is not surprising that dishonesty could emerge in some individuals who are more interested in the rewards than in acquiring new knowledge.

Identification in advance of those susceptible to dishonest behavior is desirable. Careful examination of the record of a prospective investigator can prove helpful. Special attention should be given to motivation and integrity at times of recruitment and advancement in responsibility. Credentials and claimed accomplishments should be examined carefully. Scholastic ability and technical competence do not necessarily indicate that the aptitude for science exists. It is often advisable to look beyond the most recent employment or educational experience for evidence of scientific aptitude and capability.

Since dishonesty is an unfortunate response to environmental temptations and since it is difficult if not impossible to detect in advance those most susceptible, major attention should be directed toward establishing the best environment. To accomplish this goal, attention should be given to the following issues.

Encouragement of Intellectual Honesty Nothing can substitute for a pervasive attitude of intellectual honesty in the laboratory environment. A recommitment to the ethical standards of science by all its practitioners is absolutely essential. At a minimum these standards include: open communication, submission of work for peer review, avoidance of conflict of interest, and commitment to self-regulation. The encouragement of intellectual honesty is not the responsibility of a few but must be accepted by all persons in the university. Especially, the scientific leaders must set an example for all by assiduously complying with standards of intellectual honesty and must assume the responsibilities associated with the role of mentor. By maintaining high standards, scientific leaders create a climate which discourages dishonesty and fosters unquestionable integrity. It is our opinion that a positive attitude of intellectual honesty does more to prevent dishonesty than any other single factor.

Discouragement of "Success at Any Cost" Obviously this issue is a difficult one. It is impossible to eliminate productivity and success as determinants for promotion and recognition. To do so would discourage achievement and ambition and would probably markedly attenuate research activities. However, the emphasis on quality rather than quantity of research—especially publication—is strongly recommended. It should be recognized that pressure for more publications may not be explicit, but hidden pressures for more frequent reports and papers will prevail if responsible individuals are mute on the subject. An active and frequently expressed attitude stressing quality rather than quantity is necessary.

Acceptance of Responsibility by the Laboratory Director Although everyone involved in science must be active in the prevention of dishonesty, the director of a laboratory who is mentor or supervisor of research must assume special responsibilities. Personnel must receive appropriate supervision and students must be directed by experienced scientists. The director should supervise, teach, and encourage in-depth scrutiny and interpretation of results, emphasizing respect for primary data. Routine audit and review of all primary data by the laboratory director is strongly recommended. It is inadvisable for the director to delegate these important functions.

The director must assume absolute responsibility for the validity of all communicated information from his or her laboratory and should encourage the publication of as much primary data as possible.

Maintenance of Professional Interpersonal Relationships Interactions among laboratory personnel are important in determining attitudes concerning honesty and dishonesty. Laboratory directors should encourage investigators to work with other colleagues, to share data, and to discuss results freely. Secrecy about methods and data should be discouraged. Directors should also promote a close but open and professional interaction among investigators and between faculty and students. A sense of competition among laboratory personnel or between students and faculty must be avoided. Relationships should be sufficiently personal to encourage openness and freedom of expression but not so close as to interfere with objectivity.

Establishment of Well-Defined Experimental Protocol Well-designed and strictly-adhered-to experimental methods are important deterrents to dishonesty. Written, detailed, explicit procedures for data gathering, storage, and analysis are essential and should be available and practiced in all laboratories. Research which is blinded or coded and the repetition of experiments in the same or a different laboratory should be encouraged.

Appropriate Assignment of Credit and Responsibility A climate of integrity should include generosity in recognizing the accomplishments of others. Adequate citation of the contributions of persons from other laboratories is especially important. Publications should list as authors only those who contributed significantly to the research, are prepared to stand behind the conclusions, and have reviewed the manuscript carefully.

Institutional Policies and Procedures

The committee recommends that all institutions prepare policies which state clearly the expectations for high standards of ethical behavior of those involved in research, the procedures for dealing with suspected deviations from intellectual honesty, and available sanctions. These policies and procedures must be consistent with the institution's policies on academic governance, freedom, responsibility, and due process, as well as with legal restraints.

The committee recommends that the adoption of such policies be given prompt attention by appropriate academic bodies in every university. Some institutions, after consultation with proper faculty committees, might find it suitable to adopt interim procedures with the understanding that a final document will be developed after further consideration.

This committee recommends that the policy statement deal with the following issues.

The Professional Responsibility of Researchers The policy should be explicit about the institutional standards for those engaged in research. In addition, the duties of those with oversight responsibilities should be clear. Mechanisms for periodic review of research policies may be included as necessary.

Procedures for Dealing with Deviations Institutions should have workable procedures for dealing with suspected deviations from intellectual honesty and the authority to apply appropriate sanctions when deviations are proved to the satisfaction of the appropriate body. (The excellent report, "The Maintenance of High Ethical Standards in the Conduct of Scientific Research," adopted by the Association of American Medical Colleges includes a helpful model for dealing with suspected fraud in research.)

Administrative Responsibility An officer or officers of the institution should be designated to inform investigators of policies which affect the conduct of research and to receive and pursue complaints concerning lack of integrity in research. Investigations should not be in the hands of associates from the laboratory in question, since personal relations may make objectivity difficult or impossible. The designated individual or individuals should see to it that appropriate institutional policies are followed and that adequate records are kept. When appropriate, an individual or a committee from within or outside the institution may be appointed to conduct

an investigation. Anyone appointed to investigate suspected fraud must be objective and must possess the special competencies necessary to understand the research in question.

Reporting of Suspected Fraud Members of the academic community have a responsibility to report what they believe to be lack of integrity in research. Policies should provide assurance that such reports will be held in confidence to the extent possible. Persons giving information in good faith about questionable conduct should be protected against reprisals.

The Rights of the Individual A researcher under suspicion should be treated as a colleague whose cooperation in providing access to data and procedures is expected. The individual in question should have ample opportunity to communicate with the investigator or the investigating committee in the course of the inquiry and prior to the formulation of conclusions. The individual should be advised of any decision to disseminate information about the investigation or to seek information about the research from others.

Confidentiality The mere suspicion of wrongdoing, even if totally unjustified, is potentially damaging to an investigator's career. Confidential handling of information about an investigation must be the responsibility of all involved. Thus, information concerning any investigation should be available only to those who need to know. Ideally, an inquiry should remain totally confidential until the results are established with reasonable certainty. Indeed, if the investigation were to conclude that no wrongdoing occurred, the suspicion should be obliterated from memory. However, this ideal is difficult or impossible to attain. This situation may be made easier by recognizing that research methods and results should always be open to inspection, evaluation, and criticism. In this spirit, all involved should be encouraged to accept an investigation of alleged misconduct as part of the process of the search for truth.

External Contacts There might be good reason to inform or consult with external organizations, such as granting agencies, other institutions linked to the research in question, scientific journals, professional disciplinary societies, state licensing authorities and, in some rare instances, police authorities. Such steps should be considered with great care and with appropriate consultation. The university has an obligation to notify a granting agency when the responsible officer concludes that there is a substantial reason to believe that fraud has occurred, even if the investigation has not been completed. This sharing of information would be facilitated if major granting agencies would establish procedures for receiving such information and for sharing in the responsibility to maintain maximum confidentiality until the completion of the investigation. Publicity should be avoided until the investigation concludes.

Use of Facilities and Equipment In some instances the institution might feel compelled to restrict or forbid the accused researcher's use of its premises, equipment, and resources. An institution should not limit or stop research in progress unless continued access to facilities by the alleged wrongdoer is deemed by knowledgeable and informed colleagues to pose a danger to the safety of persons or property or to preclude fair and objective evaluation. Monitored continuation of research, pending resolution of the inquiry, might be considered.

Summary

The AAU-appointed Working Group on the Integrity of Research believes that violations of honesty in research strike at the heart of the scientific enterprise. It is recommended that special attention be given to factors that foster a climate that encourages intellectual honesty. The directors of laboratories have the major responsibility for establishing appropriate standards, but all should share in this effort. It is recommended that each institution develop appropriate policies which include expectations for high standards of ethical behavior, procedures for dealing with suspected deviations, and appropriate sanctions for use when necessary.

**The Maintenance Of
High Ethical Standards
In The Conduct Of Research**

Adopted by the Executive Council of the
Association of American Medical Colleges

June 24, 1982

AAMC Ad Hoc Committee on the
Maintenance of High Ethical Standards
in the Conduct of Research

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Foreword

In January 1982, the Association of American Medical Colleges appointed an *Ad Hoc* Committee on the Maintenance of High Ethical Standards in the Conduct of Research. The committee was chaired by Julius R. Krevans, M.D., Dean of the University of California, San Francisco. The decision to establish this committee resulted from concerns that the wide attention received by several instances of misconduct by biomedical investigators would call into question the integrity of the whole research enterprise.

The Association believes that faculties and their institutions have the primary responsibility to maintain high ethical standards in research and to investigate promptly and fairly when misconduct is alleged.

The committee report was adopted by the Executive Council on June 24, 1982, as a guide to faculties of the medical schools and teaching hospitals who are responsible for the integrity of the biomedical research enterprise.

John A.D. Cooper, M.D.
President
Association of American Medical Colleges

Introduction

The principles that govern scientific research have long been established and have been applied by faculties and administrators of academic medical centers and teaching hospitals for the discovery of the new knowledge that is needed to promote the health and welfare of mankind. The maintenance of high ethical standards in research based on these principles is a central and critical responsibility of faculties and administrators of academic medical centers. Recently, however, there have been a number of instances of misconduct, including fraud, in research and in reporting of research data which have received wide attention. Validity and accuracy in the collection and reporting of data are intrinsically essential to the scientific process; dishonesty in these endeavors runs counter to the very nature of research, that is, the pursuit of truth.

The responsibility of the scientific community to the public is acknowledged. The maintenance of public trust in this pursuit is vital to the continuing vigor of the biomedical research enterprise. Loss of this trust because of isolated instances of dishonest behavior on the part of a few researchers could cause great harm by calling into question in the mind of the public the validity of all new knowledge and the integrity of the scientific community at large. In short, it is in the best interest of the public and of academic medicine to prevent misconduct in research and to deal effectively and responsibly with instances where misconduct is suspected.

The primary goal of this document is to set forth guidelines and recommendations that will be useful to medical schools and teaching hospitals in designing their individual institutional approaches to dealing with alleged misconduct by researchers. Although the guidelines and recommendations that follow principally address fraud (i.e., the intentional fabrication, falsification, or "stealing" of research data) they may also be useful in institutional efforts to deal with the violation of existing administrative procedures and ethical codes for the treatment of human and animal subjects of research and other problems that may arise in the conduct of research.

The Prevention of Research Fraud

The primary responsibility for taking steps to prevent research fraud rests with the scientific community. In academic institutions, it can best be executed by the faculties. In a free society, and particularly in the academic milieu where creativity and individual thought are qualities to be fostered and not stifled, aberrant behavior of individuals cannot be completely controlled. It is unrealistic, therefore, to assume that research fraud can be entirely prevented. On the other hand, faculties can create a climate that promotes faithful attention to high ethical standards. This climate should enhance the research process and should not inhibit the productivity and creativity of scientists.

It is recognized that the principal deterrent in research fraud is the overwhelming probability that fraudulent data will be detected soon after their presentation. Virtually all experimentation leading to scientific findings of significance will be repeated, and the likelihood that falsified, fabricated, or plagiarized data will go unquestioned is exceedingly slim. Despite the self-correcting nature of science, however, instances of research fraud have occurred and faculties should explore additional measures to decrease further the likelihood that a researcher will risk the odds and commit fraud. Faculties and institutional officials should consider the following:

- Having in place a conspicuous and understandable mechanism for dealing with instances of alleged fraud.
- Adopting institutional policies that define misrepresentation of research data as a major breach of contract between the faculty or staff member and the institution. (This policy should particularly be articulated in the faculty handbook.)
- Articulating institutional policies that foster openness of research.
- Encouraging faculties to discuss research ethics to heighten awareness and recognition of these issues.
- Establishing institutional policies to provide: 1) an appropriate and clearly defined locus of responsibility for the conduct of research; 2) assurance that individuals charged

with supervision of other researchers can realistically execute their responsibility; and 3) particular attention to adequate supervision of large research teams.

- Assuring that quality rather than quantity of research is emphasized as a criterion for the promotion of faculty.
- Examining institutional policies on authorship of papers and abstracts to ensure that named authors have had a genuine role in the research and accept responsibility for the quality of the work being reported.
- Reviewing institutional policies on the recording and retention of research data to ensure that such policies are appropriate and are clearly understood and complied with by all faculty.
- Examining the institutional role and policies in guiding faculty concerning public announcement and publication of research findings.

Institutional Responses to Instances of Alleged Research Fraud

As previously stated, it is highly advisable for faculties to have in place procedures to deal with reports of misconduct in order that alleged fraud can be investigated and resolved in an expeditious, thoughtful, fair, and judicious manner. Although it would be virtually impossible to anticipate in advance the precise course that all investigations and subsequent actions should take, procedures for handling initial reports of fraud should be established prospectively and all researchers should be cognizant of the existence of these procedures.

In developing policies and procedures, institutions and their faculties should recognize that judgments about the substantive questions relating to whether research findings are true or false must largely be made by faculty peers. If action adverse to a faculty member is taken by the institution based upon findings of fraud and such action is later challenged in court, the court ordinarily will look to see if fair procedures have been followed; that the accused had an adequate opportunity to explain and defend his actions, including when appropriate, confronting those

persons who presented evidence of fraud; and that the decision was not arbitrary or capricious, but based on credible evidence. If institutional policies and procedures meet these criteria the courts are unlikely to interfere with the institutional decision.

The following guidelines and procedures for dealing with allegations of fraud are offered as a prototype to assist schools in designing a process appropriate to their own situations. Consultations with university counsel in such an effort are strongly recommended. It is recognized that in these procedures a faculty member's reputation is put at risk during the investigation. This is justified since scientists on the university faculty occupy a special place of privilege and responsibility and must be held to a higher standard of conduct. The procedures indeed must be fair to the individuals involved. They must also be designed to be responsive to the special responsibility that science and faculty have to society.

Prototype of Procedures for Dealing with Alleged Research Fraud

A. Processing Initial Reports of Fraud

- From the outset, institutions should protect rights and reputations for all parties involved including the individual(s) who report perceived misconduct in good faith.
- Initial reports of alleged fraud should be brought to the attention of the faculty member responsible for the individual whose actions are in question. That person should in turn report the allegations to the department chairperson immediately.
- If the initial report of misconduct is not regarded as blatantly frivolous in nature, the report should promptly be referred to the dean or the chief executive officer of the institution. The dean should in turn immediately initiate a review by individuals at the institution who have been designated to review initial reports of fraud. Such individuals should be selected from among the faculty and administration. Care should be taken to exclude those with personal responsibility for the research under investigation.

- After this initial review, a determination should be made as to whether the report warrants more thorough investigation. If it is determined that there is sufficient basis for pursuing the allegations, the researcher(s) in question should be advised of the allegations and any collaborators should be informed of the pending investigation.

B. Investigation of Reported Fraud that Appears Substantial

- Institutions should have in place or be prepared to appoint immediately a committee or other administrative unit to conduct a prompt and thorough investigation of the reported fraud and should consider the merits of involving outside, objective parties in the investigation at this stage.
- The sponsoring agency should be notified that there is an investigation underway.
- During the investigation, consideration should be given to the review of all research with which the individual is involved.
- The investigating committee or unit should determine whether there was fabrication or dishonesty.
- Throughout the investigation, the individual and any collaborators or supervisors whose role in the alleged misconduct is questionable should be advised of the progress of the investigation and be afforded the opportunity to respond and provide additional information.

C. Subsequent Action Following Completed Investigation

1. If the alleged fraud is substantiated by a thorough investigation the following actions are recommended:
 - The sponsoring agency should be notified of the findings of the investigation and appropriate restitution should be made.

- All pending abstracts and papers emanating from the fraudulent research should be withdrawn and editors of journals in which previous abstracts and papers appeared should be notified.
 - Institutions and sponsoring agencies with which the individual has been affiliated should be notified if there is reason to believe that the validity of previous research might be questionable.
 - Appropriate action should be taken to terminate or alter the status of faculty members whose misconduct is substantiated.
 - Institutional administrators should consider, in consultation with legal counsel, release of information about the incident to the public press, particularly when public funds were used in supporting the fraudulent research.
2. If the alleged fraud is not substantiated by a thorough investigation, formal efforts should be undertaken to restore fully the reputation of the researcher and others under investigation. In addition, appropriate action should be taken against any parties whose involvement in leveling unfounded charges was demonstrated to have been malicious or intentionally dishonest.
 3. Subsequent to the completion of an investigation, faculty practices and institutional policies and procedures for promoting the ethical conduct of research and investigating allegations of misconduct should be scrutinized and modified in light of the experience gained.

Conclusion

The foregoing are offered as guidelines around which faculties and their institutions can develop processes for promoting ethical standards in research and in dealing with misconduct and fraud. It must be emphasized that developing an appropriate process for detecting and responding to alleged fraud is sensitive and

complex. Implementation of these policies and guidelines should not require the development of an elaborate, administrative bureaucracy. Simple, perfect, cut-and-dried procedures do not exist and to suggest that they do, ignores the difficulties inherent in achieving a balance between protecting the integrity of the research effort and protecting the rights of individuals.

JAN 6 1984



UNIVERSITY OF MINNESOTA
TWIN CITIES

Department of Medicine
Phillips-Wangensteen Building
516 Delaware Street S.E.
Minneapolis, Minnesota 55455-0311

January 4, 1984

Dr. Kenneth C. Zimmerman
Associate Dean of the Medical School
325 Johnston Hall
Minneapolis Campus - East

Dear Dean Zimmerman:

I'm writing this letter to clarify the status of the Department of Medicine relative to the M.S. and Ph.D. programs in Medicine within the Graduate School. As you know, this program has been inactive for some time. Dr. Thomas Ferris and I agree that the program should be cancelled. The faculty discussed this at a meeting when the question first arose several years ago and agreed with this stance. We would prefer that any individuals wishing to achieve either the Masters or the Doctorate do so in basic science programs within the Medical School. The mission of training our medical fellows for careers in research can be accomplished without a formal degree granting program.

Yours truly,

A handwritten signature in cursive script that reads "I. Dodd Wilson".

I. Dodd Wilson, M.D.
Professor and Vice-Chairman
Department of Medicine

IDW/pmm

cc: Dr. Cavert
Dr. Ferris



UNIVERSITY OF MINNESOTA
TWIN CITIES

Department of Pediatrics
Box 391 Mayo Memorial Building
13-107 Phillips-Wangensteen Building
516 Delaware Street S.E.
Minneapolis, Minnesota 55455

5 December 1983

Dr. Kenneth C. Zimmerman
Associate Dean, Graduate School
325 Johnston Hall

Dear Dr. Zimmerman:

The Department of Pediatrics' graduate degree program was reviewed in detail some time ago now. The single substantive issue raised by the reviews dealt with the question of the doctorate degree in clinical pediatrics. From both the pragmatic (only one candidate in many years) and the philosophical perspectives, the role of a Ph.D. with clinical designation may be legitimately questioned. At the time of the review we asked that the then new chairmanship of the department be allowed time to further define and clarify this issue and to seek direction from the graduate faculty of Pediatrics. Since then, accumulated experience and numerous discussions with interested faculty members have led to a proposed resolution of this issue.

It is proposed to the administrations of the Graduate School and the Medical Graduate Program that the Department of Pediatrics will restructure its graduate training program in the following manner:

1. The present 3-year resident training program leading to professional board certification will be retained.
2. The present post-residency subspecialty fellowship training program will also be retained.
3. The graduate program leading to an M.S. in Pediatrics will be retained as described in the "Graduate Programs in the Health Sciences" bulletin.
4. The Ph.D. in clinical pediatrics will not be offered after 1 January 1984.
5. The rich research environment of the Department of Pediatrics will remain open to all of our students. Where an individual wishes to pursue a doctorate degree to augment the clinical pediatric training, existing avenues to other extant doctorate

Dr. Kenneth C. Zimmerman
5 December 1983
Page 2

degree programs will be encouraged by our faculty's numerous formal and informal working ties with other departments of this university.

6. It is understood that the status of the Graduate Faculty of the Department of Pediatrics and the administrative structure of the graduate program of this department are not altered by this action.

If this proposed modification in the Graduate Training Program of the Department of Pediatrics is deemed acceptable, we will implement this change immediately and make the appropriate changes in the next issue of the bulletin. Since this appeared to be the only issue raised by the reviewers, we suggest that this cycle of the review process could be resolved by this action and further meetings to discuss the review would seem unnecessary. If, however, any parties to this process see other problems or issues that require further discussion in the context of this review cycle, we are available and open to such meetings.

Thank you for your consideration and forbearance in this matter. With warm regards, and season's greetings, we are

Sincerely yours,



William Krivit, M.D., Ph.D.
Professor and Head

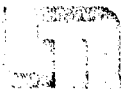


C.C. Clawson, M.D.
Professor and Director of Graduate
Studies for Pediatrics

WK:CCC:cd

copies: Dr. Robert T. Holt
Dean of the Graduate School
Dr. N.L. Gault
Dean of the Medical School
Dr. H.M. Cavert
Associate Dean of the Medical School

SEP 15 1983



UNIVERSITY OF MINNESOTA
TWIN CITIES

Department of Psychiatry
University Hospitals
Box 393, Mayo Memorial Building
420 Delaware Street S.E.
Minneapolis, Minnesota 55455

September 13, 1983

Kenneth Zimmerman, Associate Dean
The Graduate School
325 Johnston Hall
University of Minnesota
Minneapolis, MN 55455

Dear Dean Zimmerman:

On September 7, the graduate faculty of our department met to discuss the recommendations arising from the review of our graduate programs and embodied in the respective reports of the external and internal review committees.

After extended discussion the faculty voted: 1) to accede to the recommendation that we drop our Ph.D. program; 2) to reject the recommendation to surrender our M.S. program.

Our request to continue to offer a M.S. degree in psychiatry as an option available to our residents rests on several considerations. The department faculty has a definite commitment to the recruitment of physicians for training toward research/academic careers. We believe that the M.S. program, with changes as indicated below, could provide an appropriate basic structure for the preparation of such individuals.

Much of the faculty discussion centered on the problem of how to balance the didactic course work and thesis requirements for the M.S. degree with the very heavy load of clinical responsibilities carried by the residents. Achieving this balance will require flexibility and adjustments on the part of our faculty, but we believe we can accomplish this. While the department's degree productivity in recent years has been slim, the fact that we have had some graduates argues for the feasibility of maintaining the program. We see the graduate school program and degree monitoring structure, especially in relation to theses, as offering an attractive alternative to a less structured resident research apprenticeship.

Both preparation for our program review via the self-survey and the review committee observations have alerted me to the need for a survey of our present graduate course offerings. I have appointed two committees to review respectively: 1) Those graduate credit courses restricted to our residents, and 2) Those courses offered by our faculty to other students through regular courses and continuing education and extension programs.

Finally, we have several junior staff members who appear now to qualify for graduate faculty status. We will be submitting their nominations. Apart from these possible additions, we presently have a sufficient cadre of full and associate members to provide the teaching and advising components for a sound master's program.