

RESEARCH DEVELOPMENT

Prepared by Task Force Subcommittee

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I. PREAMBLE:

The specific charge to the Subcommittee on Research Development by the Retreat Planning Task Force was preparation of a position paper to provide "dissemination of information and stimulation of interest." The members of the Subcommittee were chosen so as to include both clinical scientists and basic scientists in the hope that the paper derived would reflect the interests of both groups. In our discussions, it has become apparent that this distinction is basically unimportant. The designation of a department as a "Basic Science Department" is really useful only in terms of defining its role in teaching areas. Much good fundamental basic research is accomplished in departments of medicine, surgery, psychiatry, etc. Further, clinically relevant studies can be and are accomplished in departments of anatomy, microbiology, pharmacology, etc. The important and determinant factors are the individual research scientist, his interests, his environment (physical and intellectual), and his capabilities.

We have, therefore, attempted to present not only a history ("Where Are We?") but a limited discussion of some issues we feel affect all persons interested in accomplishing research (clinical or non-clinical) at the LSU School of Medicine in Shreveport. We recognize some issues as general problems (i.e. encouragement and stimulation of research efforts), important to scientists involved in clinical or non-clinical research and some which affect some of us to a greater degree. It is obvious that the issues presented here are selective. Many other topics were considered but ultimately rejected as being either beyond the scope of this paper, impossible to present adequately in this format, or seemed more properly to be included in a position paper prepared by another Subcommittee.

Richard M. Jamison

II. INTRODUCTION:

The Subcommittee on Research Development believes the function and importance of research efforts in a medical school need no defense. We believe the role of biomedical research, clinical and non-clinical, basic or applied, in the proposed eradication of disease, promotion of community health, and in education of physicians and medical scientists to be self evident. The edifice of a modern medical school figuratively can be said to be constructed upon a tripod: medical education, community service and biomedical research. If any of the legs of this base are off balance, inevitably the whole structure will reflect the instability.

The Association of American Medical Colleges (AAMC) has stated its firm convictions,* "...science is the sine qua non for the development of a new technology and hence, is highly relevant to medical care." Further, "...basic biomedical research represents the foundation of applied science related to health." "The strongest argument for location of research in universities is the benefit of research to the educational process and of education to research."

Among the positive recommendations of the AAMC we find the following: "That medical schools and their affiliated hospitals continue to be the principal sites of biomedical research effort in this country, thus enhancing the training of physicians and other health workers, the care of patients and the research itself."

The inference is clear. A program aimed at a) developing the potential and productivity of our research staff, b) increasing the numbers of our faculty willing and able to devote substantial effort to research, c) providing for necessary intellectual stimulants, and d) otherwise supporting the research program, is directly compatible and even necessary to fulfillment of the

*A Policy for Biomedical Research
Journal of Medical Education, 46, 691-742, 1971.

published goal of our Institution. Viz..."the training of the competent, ethical physician motivated toward and capable of providing comprehensive health care of high quality to individuals and families and of initiating and participating in effective programs in community health."

One phase of the development of the research effort at our Institution is briefly described below (Where Are We?). The Subcommittee chose to use the accumulation of funds by research grant proposals as indicative of research development as this parameter could be determined easily. Correspondingly, comparison of the parameter between the years could be made. The difficulty of comparing the other obvious parameter - the number of scientific communications published - is so overwhelming as to preclude this consideration. (What are the relative values that can be assigned to: a) Case reports vs "brief notes" vs full papers, b) One paper in the Journal of Experimental Medicine vs three in the Journal of Non-reproducible Results, c) Three reports each of epidemiological data gathered in a years' time vs one report of the same data gathered over an interval of three years, etc.)

The record shows we have made an impressive beginning. Particularly when the data are viewed with due consideration for the youth of the School of Medicine, and the necessary pre-occupation of the early Faculty with onerous administrative, service, and teaching responsibilities.

Having arrived at the answer to the question posed, ("i.e. Where Are We?"), the Subcommittee has attempted to delineate areas of importance to further development and improvement of the research efforts of the LSU School of Medicine in Shreveport. We raise these issues and ideas in hope of stimulating consideration by Faculty and Administration of means for improvement. Criticism, when given or implied, is of either methodology or situation, and is not to be construed as censure of any individual(s).

III. WHERE ARE WE?

The Subcommittee feels that the present position of the LSU School of Medicine in Shreveport regarding research development can be adequately presented by consideration of the efforts of individuals to acquire support through research grant proposals submitted to agencies outside of the medical school. Figure 1 demonstrates the amount of funding made available through the mechanism of research grants to the Faculty during the interval 1968-74.* These figures represent only those monies granted by agencies outside of our school for support of research per se; they do not reflect indirect support of research efforts through a) departmental budgets, b) training grants, c) special equipment grants (even though the equipment might be used as research tools), d) contracts for service, e) sub-contracts for service, f) "special interest" clinics, etc. As such then, Figure 1 gives minimal values.

It can be seen that the greatest period of growth in research funding was in the infancy of the school. Obviously, this can be correlated with greater proportional increase in the number of faculty employed. As numbers were smaller, any increase had a proportionately greater impact on the total. The figures from 1968-70 should be assessed in view of the small staff and tremendous administrative, service, and teaching responsibilities of the pioneers. The total amount of research grant funding acquired topped the \$100,000 mark in 1971. Increases since that time have not been as dramatic. The total amount of money available from research grants in 1974 was \$189,104 up from \$112,119 in 1971. The number of research grant applications submitted during this period has doubled (Figure 2); the percentage of applications

*These data were derived from the files of the Louisiana State University Medical Center in Shreveport, Business Office and reflect all research grant proposals submitted to the Louisiana State University Medical Center Office of the Chancellor for approval.

actually funded has increased in approximately the same ratio. No figures are available to us to allow assessment of grant applications that were approved on scientific merit but were assigned priorities by the granting agency inconsistent with actual funding. Action on several proposals submitted during 1974 is still pending.

An examination of the sources of funding outside of this institution utilized by the Faculty is now warranted. Grant applications to the Veterans Administration Hospital, Shreveport, Louisiana, will be treated separately for reasons that will become apparent later (see below). Figure 3 demonstrates sources solicited (open areas), grants actually funded (black areas), and those still pending (hatched areas) for the interval, 1968-April 1974. The designations of various agencies into the categories indicated are arbitrary, albeit we hope, reasonable. The LSU Foundation, even though an "off-campus" independent entity was felt to bear a somewhat too intimate relationship to our School to be considered "just another local foundation," accordingly, it has been dealt with separately. Of 64 applications, 27 or 42 percent have been funded. Twelve are listed officially as "pending."

Research grant applications to pharmaceutical houses and their appendaged research institutions have been largely successful, e.g., 11 of 12 applications have been funded; action on one is still pending. Local philanthropic foundations have been approached officially only three times for research grants - each of these proposals have been funded. These figures are probably biased - i.e. in one case, only those grant requests previously selected by peer-review were actually submitted as formal applications to the foundation.

The acquisition of continued and long term research funding from outside agencies is evidently a problem to the Faculty. Figure 4 demonstrates funds received from 1968 to date, including two grants that have been funded through

1975. Boxes enclose those three grants which have been funded for more than one year. (It is possible that renewal of others funded through 1974 may occur. The data are correct as of July 1974.)

The situation described by Figures 2, 3, and 4 should be compared to the other major source of research funds acquired by faculty of Louisiana State University School of Medicine in Shreveport - the Medical Research Office of the Shreveport Veterans Administration Hospital (Figure 5)*. The office (Medical Research) was officially created in September 1969, and began its program in fiscal year 1970. Funding is limited by the Veterans Administration Central Office in Washington, D.C., to those grant proposals originating from V. A. Staff or others in association with the V. A. Staff. Members of the LSU Faculty associated with the local Veterans Administration Hospital as either consultants or part-time employees have received continuing long term and generous support for research conducted in the V. A. Hospital. Support from this single "in house?" agency has accounted for greater than 50 percent of all research grant support during the interval 1970-1974.

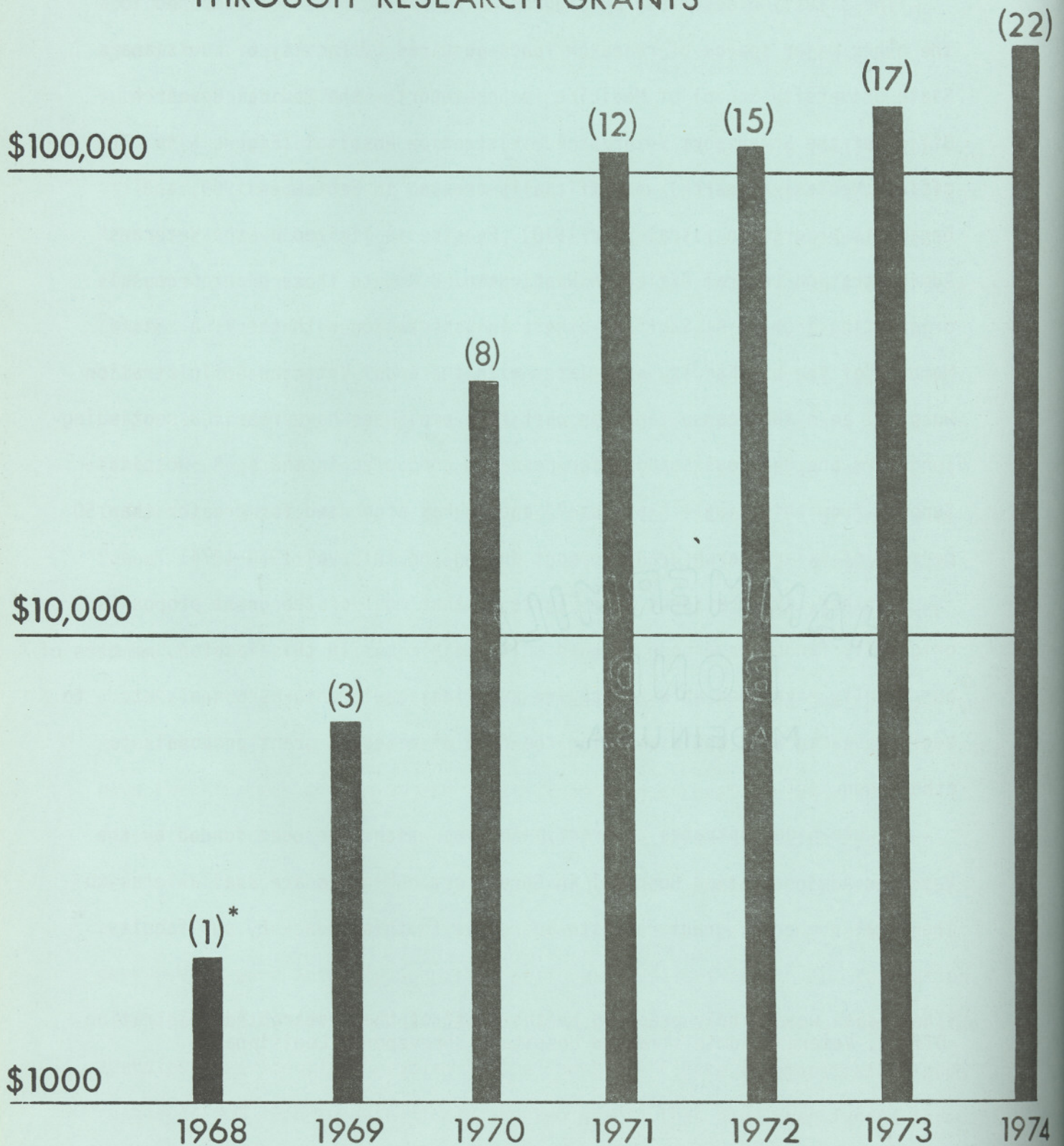
Further, it is evident from Figure 5, that most of the grant proposals originally funded have been renewed multiple times. In this fashion, members of our faculty have been able to acquire supplies, equipment, personnel, etc., to begin research work while awaiting the fate of research grant proposals to other agencies.

Figure 5 demonstrates 20 grant proposals which have been funded by the Veterans Administration Hospital in Shreveport. Figures are available as to the total number of grant requests addressed to this agency by our faculty.

*These data were kindly prepared by the staff of the Research Administration Office, Veterans Administration Hospital, Shreveport, Louisiana.

Figure 1

FUNDS ACQUIRED BY FACULTY OF LSU SCHOOL OF MEDICINE IN SHREVEPORT THROUGH RESEARCH GRANTS

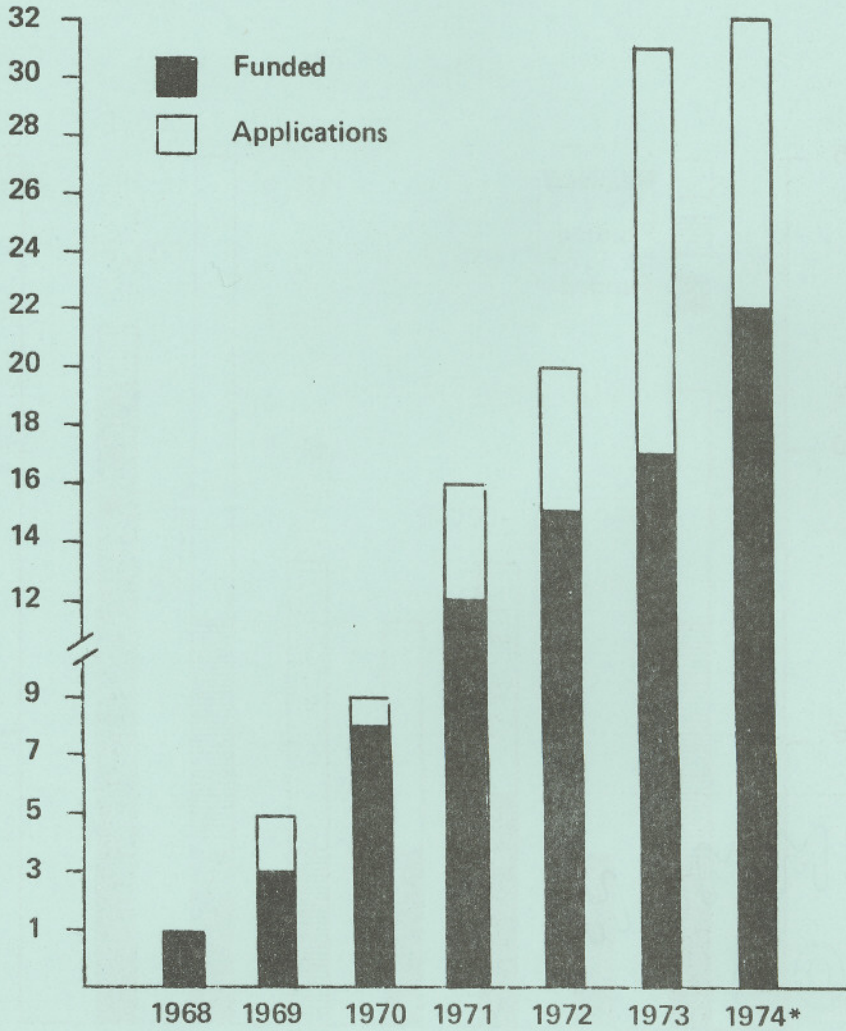


TOTAL FUNDS = \$617, 271
1968-1974

* GRANTS FUNDED

Figure 2

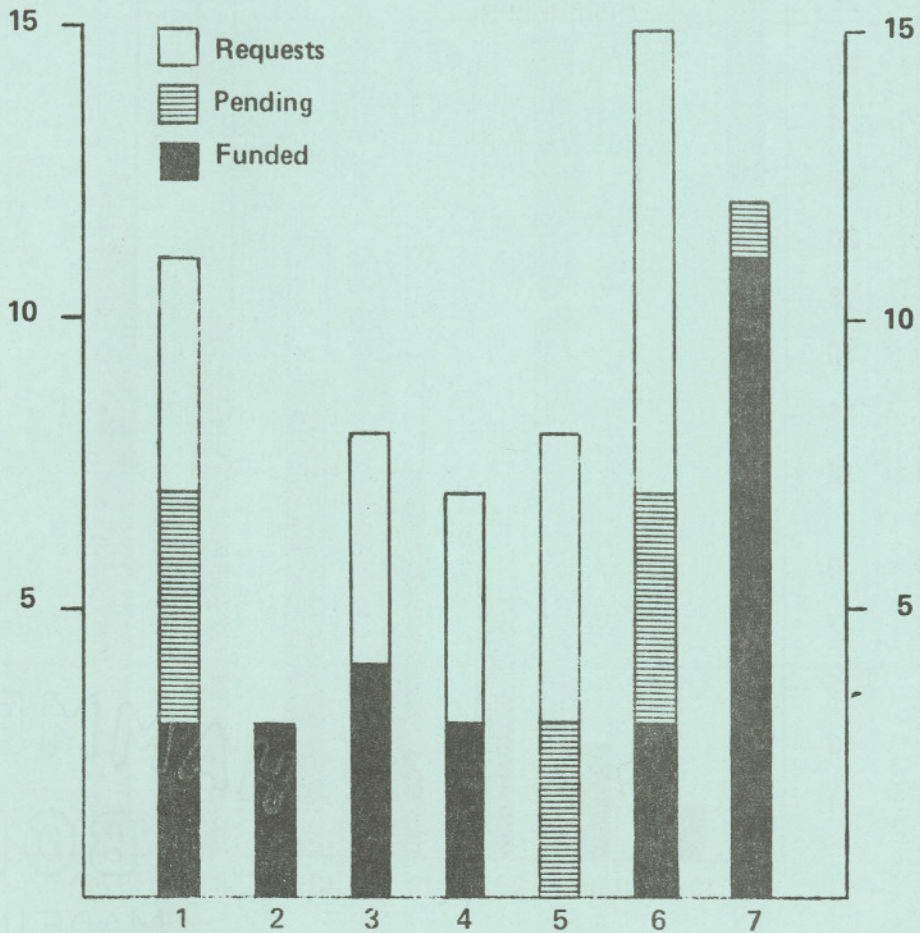
APPLICATIONS FROM FACULTY
L.S.U. SCHOOL OF MEDICINE IN SHREVEPORT



*Action on several grant proposals is pending at this time.

Figure 3

OUTSIDE SOURCES REQUESTED FOR
RESEARCH GRANT FUNDING (1968 - APRIL, 1974)



1 = L.S.U. Foundation
2 = Local Foundations
(i.e., Frost Foundation)

3 = State Foundations
(i.e., La. Heart Assn.)

4 = Regional Foundations
(i.e., Southern Medical Assn.)

5 = National Foundations
(i.e., American Heart Assn.)

6 = National Institutes of Health

7 = Other
(Drug Companies, etc.)

Funds Granted to the Faculty of L.S.U. School of Medicine
in Shreveport As Research Grants by Outside Agencies*

<u>Year Requested</u>								<u>Total</u>
1967	-0-							-0-
1968		2,000						2,000
1969	560		1,350	4,642				6,552
1970		1,000						1,000
1971	6,490		6,000		11,736			24,226
1972		15,000		3,870	15,125	3,000		36,995
1973	9,000		3,000				3,795	
		3,636		5,590	1,000	9,000	2,500	37,521
1974	12,986		2,000					
		24,125		2,000	20,000	1,000	22,752	84,863
1975		24,125			20,000			44,125
								237,282

*Boxes enclose grants funded for more than one year.

Figure 5

Research Funds Granted to the Faculty of L.S.U. School of Medicine in Shreveport
by the
Veteran's Administration Hospital, Shreveport

<u>Year Initiated</u>	<u>Amount Funded*</u>													<u>Total</u>	
1970	11,156	11,427	4,093	779	4,588	1,007	1,956								35,016
1971	17,375	10,197	761	880	1,556	21,344	4,996	3,241	6,378						66,728
1972	13,157	7,749	29	168	795	9,592	2,499	11,621	16,384	7,381	5,249				75,124
1973	11,494	8,636				10,306		18,438	13,734	14,818	15,978	1,529	3,947		98,880
1974		9,238	2,670	758	447	11,569	4,344	14,510	2,992	15,286	35,145	500	5,814		
	729														
		202	37												104,241
															379,989

*Boxes enclose grants funded for more than one year.

IV. TOPICS SUGGESTED FOR DISCUSSION

A. Desirability of a Dean for Biomedical Research

The Subcommittee on Research Development is in favor of the establishment by the Administration of an office to encourage, assist and otherwise support individuals interested in research efforts. We recommend this office be supervised by an individual at the administrative level of Assistant or Associate Dean. The individual chosen to fill this position should have wide contacts and experience in federal and state "grantsmanship." Ideally, he would function as initiator or principle investigator of institutional research grant proposals to both national and regional granting agencies (example--attempt to obtain institutional cancer grants). He could also be expected to develop grant proposals aimed at obtaining funds for minimal support of graduate students and postdoctoral fellows. This individual might function as a counselor in grantsmanship and possibly as troubleshooter between individual investigators and other administrative personnel.

The proposed "Office of the Dean for Medical Research" could render a real service to the individual investigator in the preparation of research grant proposals. Examples of the functions of such a proposed office would be:

- 1) Maintain a current file of agencies granting research support. Included would be names and addresses of granting agencies, statements on the type of research supported, restrictions (geographic, etc.) on proposals, sample application forms, deadline dates, etc. Regularly request information of changes in format of proposals or in methodology of grantsmanship - notably from the National Institutes of Health (NIH). Serve as a clearing house for all information about research grants originating from the NIH. Subscribe to publications such as "NIH Guide Supplement for Grants and Contracts," "Requests for Contract Proposals" etc. and see that these are routed to interested individuals.

2) Compile a file of Faculty regarding research interests to aid in dissemination of any information obtained.

3) Develop a list of facilities, items of equipment, unique skills, etc. available for use on a selective basis by investigators without these facilities, etc. It is recognized that the mere presence of expensive and unusual equipment or of a laboratory capable of performing delicate, highly specific techniques does not guarantee availability of these products to research investigators who have a "one-time" need for the service. None-the-less, having these on file would provide potential sources and might serve as an impetus for cooperation and potential collaborative efforts between the "haves" and "have nots."

4) Provide assistance with typing of grant proposals, editing, etc., in those unusual circumstances when departmental staff typists are unavailable.

5) Provide for scheduling of research seminars, journal clubs, etc., and notification of departments of these schedules. Obtain and provide for dissemination of information to interested individuals, the schedules of speakers of national and international repute at Southwestern Medical School in Dallas and our sister school in New Orleans. (Both now currently have an active Distinguished Lecturer Series.)

6) Maintain a file of grants awarded; both institutional and faculty awards.

7) Maintain a current list of names of individuals serving various national granting agencies in the capacity of proposal reviewers; particularly the National Institutes of Health.

8) Serve as an orientation service for new faculty; matters such as procedures to be followed in processing a research grant proposal through the LSU system; research services available in the Medical Library (Medline, SDILine, etc.).

9) Actively participate in acquisition programs of the library to assure holdings will be relevant to research interests of the faculty.

We recognize that attempts are currently being made by the Business Office to formalize, coordinate, and simplify the procedures inherent in preparation of research grant proposals originating from the LSU School of Medicine in Shreveport. We are appreciative of this effort. We feel, however, that the services of someone who is experienced in "grantsmanship" at all of its levels would be invaluable in raising the research productivity of our faculty.

B. Allocation of Time for Research

Medical faculties in general, divide their time between the traditional three major functions of medical school; community service, teaching and biomedical research. A number of variables determine the manner in which an individual allots his time, including but not limited to; the objectives of the particular school, his discipline, degree, the availability of research materials, and the attitudes of the Administration including the head of his particular department.

It seems desirable at this time in the development of the LSU School of Medicine in Shreveport that conscious efforts be made to reach consensus as to the percentage of effort and funds we will expend on research development. The research vs service vs teaching question is long-standing. What we (faculty, administration, heads of departments) need is to approach this question in an attempt to reach an understanding of what our expectations of one another are. Just how much time should be available to the clinician as well as non-clinician for each of these functions?

An individual in a basic science department generally has less opportunity than the clinical scientists to devote time to service work. Consequently, his efforts usually are divided between teaching duties, research and possibly administrative tasks. As the number of faculty increases, the percentage of time required of any one individual in teaching tasks will probably decrease slightly. Encouragement of increased research efforts by heads of departments and other administrative figures would therefore seem warranted. Individual faculty members may elect to increase their teaching role by providing for elective courses in both the pre-clinical and clinical years, or by assuming a larger role in the teaching of major departmental blocks in the medical curriculum. Correspondingly, some arrangement should be made to

accommodate those individuals who elect to devote an increased amount of time to research. Productivity in research is a function of highly individualized styles. The needs of particular investigators are best considered on an individual basis.

At this institution, as at all medical schools, there are a number of faculty in different clinical fields who have elected to devote very much of their time to service, some of their time to teaching and very little or none of their time to research. However, many of our clinical faculty feel that the amount of teaching, service work and administrative tasks required of them prohibits their function as investigators to the degree to which they aspire. The problem of allocation of time for each of these endeavors rests with the assignment of duties by heads of the various departments. As the number of faculty increases, it would seem desirable to reduce the service and teaching functions of those individuals who desire to pursue research more actively.

It is evident that this statement raises a plethora of questions. Problems to be considered include a) equitable distribution of service tasks, b) finances (service work and research), and finally comparative subjective judgement of the performance of individuals coping with completely different tasks, (i.e. reward for services in terms of salary, rank, etc.). The Subcommittee poses no easy solution to these questions. We feel, however, they are worthy of discussion in this format.

C. Institutional Review Committee for Human Experimentation

The goal of the Institutional Review Committee for Human Experimentation (IRCHE) is to protect the rights and welfare of human subjects at risk through their participation in clinical research. Consequently, this committee delves into the ethics and legalities concerned with the care and use of patients in a variety of situations. Conscientious review of proposals dealing with the use of humans in experimentation dictates careful examination and study of the proposal, with the aim of identifying problem areas concerning patient welfare, University responsibility and commitments, legalities, etc., which may exist in the grant proposal. If a problem is identified, the scientist responsible for the research proposal has a clear obligation to the experimental subjects, to the University, and to himself to eliminate the objections by further explanation or rewriting of the proposal, reexamination of the experimental thesis, and/or critical analysis of the necessary experimental procedures. It is recognized that the members of the IRCHE are peers and cohorts of the investigator. As such, they naturally attempt to help in eliminating problem areas. There is a consensus, however, that in the past, the time necessary for initial review, commentary by the IRCHE, and response of the investigator was prolonged beyond the desired minimum. In some few cases, grant proposals, regrettably, were not submitted sufficiently in advance of deadline dates to allow for completion of the institutional review. In part, we feel, this problem may be a reflection of procedural difficulties (communication gaps, members unavailable for consultation, etc.) and could be remedied by administrative fiat.

Recognition of the good offices of members of IRCHE and their efforts to serve the University and their peers leads the Subcommittee on research development to invite discussion of ways and means of improving the functioning

of the IRCHE. Several ideas have surfaced during our discussions of this topic and they are presented here simply as models:

1) Expand the IRCHE to a "two platoon" system. The IRCHE is currently comprised of seven people; using this committee as a model, the two platoon system would have 14-18 committee members, only 7 of whom are concerned with any one grant. Arrange for meetings of each platoon on a regular and scheduled basis for purposes of discussion of any proposals received within a given time period. If meetings are scheduled on a bi-monthly basis, the IRCHE could respond to a proposal with a maximum delay of two weeks.

2) Expand the IRCHE and have members serve on a rotation basis, i.e. if one individual is unable or unwilling to review a grant proposal within a given time (1 week?) the proposal would automatically become the concern of another committee member. Again, schedule meetings for purposes of discussion of the proposals.

3) Provide the IRCHE with the counsel of an attorney-at-law so as to avoid unnecessary and prolonged consideration of legal details of consent forms, etc., by individual committee members.

4) Attempt to derive model consent forms for such standard procedures as phlebotomy when performed for experimental purposes.

5) Inform the Faculty of the nature of those general problems which have occurred most frequently in the past. Possibly some types of problems could be eliminated by this mechanism.

D. Provision for Increased Opportunities for Communication

Development of a vital, thriving research program at the LSU School of Medicine suggests provision for improved communications of investigators with their peers both at home and away from the University. The greatest vehicle of such communication is the scientific meeting, seminar or lecture. Travel funds for most of the faculty are limited and quite difficult to procure. Most private foundations limit severely the amount of travel funds available through research grants. Therefore, it would seem that increases in departmental travel funds would be in order. Such increases could be specifically marked for attendance at scientific meetings for the purpose of presentation of research performed. Those travel funds existant at present could be utilized by others to attend those meetings for purposes of instruction and informal exchange of ideas. The proposed Dean for Biomedical Research might well be able to procure such funding through the Louisiana State University Foundation or other source.

The comparative absence from our School of scientists and physicians of international repute deserves comment. Although we realize the financial problems inherent in providing for such speakers, we believe the time is ripe for attempts to solve this problem. The Louisiana State University Medical Center in New Orleans has a program of such distinguished lecturers which is funded through a grant from the LSU Foundation. Although this grant is limited, it may be possible in the future to acquire similar funds.

We suggest that either the proposed Dean for Biomedical Research, the Associate Dean for Special Projects, or the Dean of the Louisiana State University School of Medicine in Shreveport, attempt to arrange funding for a limited series of distinguished lecturers to be presented here. It is our impression that if coordination of the program in Shreveport with similar

programs in Dallas (Southwestern Medical School) or New Orleans were attempted, the number of potential speakers willing to participate would be enlarged. Further, expenses of the program might well be kept to a minimum.

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E. The Relationship of the School of Medicine Research Program to
Other Institutions

1) The Veterans Administration Hospital in Shreveport. A brief review of the figures presented in Section II, suffices to demonstrate the importance of the Research Office, Veterans Administration Hospital in Shreveport, to the development of biomedical research at the School of Medicine in Shreveport. Cooperation between the Veterans Administration Research and Education Committee and School of Medicine investigators has been extensive and rewarding to both groups. The Veterans Administration Research and Education Committee has been administratively responsible for grants totaling \$379,989 awarded to our faculty over a four-year period. Most of the recipients of these grants have been members of the various basic science departments physically located at the Veterans Administration Hospital. The Veterans Administration (Central Office) requires active participation of Veterans Administration personnel in such research. This requirement fosters direct interaction and cooperation between our staff and that of the Veterans Administration Hospital.

At present, extant regulations of the Veterans Administration (Central Office) would seem to limit cooperation to such a degree, once the physical location of the school is changed. It is the consensus of individuals involved in the local Veterans Administration Research Office that means will be forthcoming to allow for further cooperation between the research efforts of the two institutions. In view of the importance of the Veterans Administration's Research Program in the past, the Subcommittee on Research Development recommends initiation of positive action by the Administration of the School of Medicine in an effort to assure continued cooperation at the present level.

2) Other Local Community Hospitals. Inclusion of the medical staffs of community hospitals in the research program of the School of Medicine would seem to be a desirable goal. First, such cooperation would make available large numbers of potentially useful patients to our faculty. In addition, it is possible that cooperation of the staffs of community hospitals might make a greater variety of patients available to the LSU-based investigator. Most importantly, other institutions might serve to accumulate specialized patient populations unavailable for study in other circumstances (e.g., Schumpert Memorial Hospital Cancer Treatment Center).

Participation in combined research efforts may result in serendipity -- the engendering of a greater sense of togetherness and goal-orientation than now exists. This might result in the School of Medicine being accepted as an even more vital portion of the total medical community in Shreveport.

As the problems associated with such suggested cooperation are legion and multi-faceted, it is probable that initial attempts in this direction should be directed through the Office of the Dean of the LSU School of Medicine in Shreveport and the hospital administrators. The initial problem would seem to be to establish basic ground-rules for collaborative efforts (i.e., responsibility for legalities, IRCHE, University commitment, etc.). Finite details would ultimately have to be resolved by the responsible investigator and the medical staff of the hospital involved. In such cases, co-investigators should be solicited and recruited from the staffs of the various hospitals.

3) Other Louisiana Medical Schools. The difficulties of research collaboration over a long distance probably precludes such an effort on a large scale. Travel between our institutions is inconvenient at best. Further, at this time the absence of an investigator from his laboratory,

service obligation, etc. is often keenly felt. However, it is important to note that collaboration is possible in certain selected and specialized areas.

There are numerous instances of active research being pursued jointly by members of the faculty of the LSU Medical Center School of Medicine in Shreveport, LSU Medical Center School of Medicine in New Orleans, and Tulane University School of Medicine. There is at least one sub-contract for service between the LSU Medical Center School of Medicine in Shreveport and the Tulane University School of Medicine. This cooperation results in improved patient care and production of joint clinical research. Such efforts represent a viable beginning. Increased collaborative efforts should be encouraged. We believe the benefits derived from such collaborative research are important in themselves. In addition, the fostering of a spirit of good will and cooperation between the medical schools (state and private) seems desirable.