Long-Range Research Plan: Priority Recommendations

Submitted by the LSUHSC-S Long Range Research Planning Committee

July 25, 2002
Direct inquiries and comments concerning this report to:

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DATE: July 25, 2002

TO: Long Range Research Planning Committee Members

FROM: Sandra C. Roerig, Ph.D.
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This booklet contains the final recommendations of the Long Range Research Planning Committee that were approved at the June 2002 retreat. Shortly after assuming his position as Chancellor and Dean of LSUHSC-Shreveport, Dr. John McDonald, charged the faculty to develop a long range plan for research development on this campus. The Research Council identified four areas of planning emphasis: (1) Research Program Development, (2) Research Infrastructure, (3) Clinical Research, and (4) Foundations (i.e., LSUHSC-Shreveport Foundation and the Biomedical Research Foundation of Northwest Louisiana). Active members of institutional standing committees that address research interests were invited to serve on the Planning Committee. These standing committees include the Research Council, the Research Advisory Committee and the Clinical Research Committee. These individuals represented junior and senior faculty from Basic Science Departments and Clinical Departments as well as the two Foundations. Also included in the Long Range Planning Committee were research faculty in the School of Allied Health Professions as well as the Associate Dean for Information Technology, the Heads of Clinical Departments with active research programs, two representatives from the PET Imaging Center, a representative from the VA Medical Center who is actively involved in research, and the Director of Grants Administration. Each of these 66 individuals was assigned to one of the four focus-area subcommittees. Chancellor McDonald met with the entire group to present the charge for Long Range Research Planning.

The four subcommittees initially met in early December 2001 and during the next six months each subcommittee worked diligently to formulate recommendations to address the individual charges. Each subcommittee divided itself into smaller working groups in order to address specific areas. Communication among the subcommittees was facilitated by several meetings of the subcommittee chairs with the coordinators of the planning process, Drs. Neil Granger (former Associate Dean for Research) and Sandra Roerig, who became the Associate Dean for Research and Graduate Studies on October 1, 2001. By the end of May, 2002, each subcommittee provided the Office of Research with a list of recommendations that included rationale, specific goals/objectives, time-frame for achievement of goals, implementation strategies, cost estimates and progress measures.

On June 5-7, 2002, a retreat was held for the Planning Committee in Many, LA. Thirty-four members of the Committee attended the retreat along with Chancellor McDonald to discuss and prioritize the planning recommendations. A total of thirty-three recommendations were individually presented to the entire group by members of the relevant subcommittees and discussion groups. At the end of these initial presentations and discussions of the recommendations, all Committee members voted to assign a priority score (between 1-5, with 1 being the highest priority) to each specific recommendation. Once the initial scores were tabulated, the four subcommittees met to revise or delete the original recommendations or to introduce new recommendations. The final recommendations were then presented to the entire group and a second vote was taken. Recommendations receiving a final priority score between 1 and 2 were deemed sufficiently meritorious to carry forward and are included in this booklet.

During the retreat, the Chancellor addressed the assembled Committee members to convey his commitment to research development on our campus and his desire to work with the faculty to implement the recommendations in a timely fashion. Chancellor McDonald’s perspectives about the implementation process and his vision for research development are outlined in his letter appearing immediately hereafter. The Research Council and the Associate Dean for Research and Graduate Studies were assigned the task of promoting the implementation of the retreat recommendations and are asked to assist the Chancellor in identifying the resources, areas of research excellence, and potential sources of financial support that will be needed to meet the stated objectives. The Research Council is
expected to meet with the Chancellor at regular intervals (eg, 6 months) to discuss progress towards implementation of the priority recommendations.

The first retreat for research development on the LSUHSC-S campus was held in 1999. The twenty-one recommendations that were promulgated from that meeting were largely focused on infrastructural needs for research expansion. Because of the support provided by the administration (Dean Muslow and Chancellor McDonald) and the persistence of the research faculty, over 80% of the recommendations have already been implemented. The few remaining unresolved recommendations are still viewed as important for research program development and warrant continued support for implementation. Hence, in order to keep these issues at the forefront of the planning process, a list of the unresolved recommendations is provided at the end of this booklet.

I would like to personally thank all those who helped to make this Research Planning Retreat successful. The various subcommittee members met multiple times and spent a great deal of time thinking about and discussing the many issues brought forth. The subcommittee chairs put considerable effort into producing their final documents for this booklet. The Office of Research staff provided constant support and organization and made sure that all details were finalized. Dr. Granger’s insight and experience provided the essential elements of the entire process. The next tasks are to follow through on the recommendations, with regular evaluations to assess progress and recommend appropriate modifications. I expect research at our institution to thrive and prosper.
The faculty is to be congratulated for the time and effort spent in a comprehensive study of our resources, as well as the development of a plan for long-term research development. I have received the recommendations, of which there are 29. I am in agreement with virtually all of these initiatives. Some of these can be implemented promptly. Implementation of the remainder is a matter of time, space and money. Nevertheless, now that we have a roadmap we can work in this direction as our resources allow. Again, I congratulate all of those who participated in this study.
2002 Long-Range Planning Group

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Approved Recommendations - for 2002 Retreat

The major accomplishment of the Research Retreat was the adoption of the CENTER concept for this campus. This concept was developed and presented by the Research Program Development Committee. Thus, the recommendations from this Committee regarding the CENTER concept are given first, in the order in which they were presented. The priority score for each recommendation is given after the text. Recommendations from the other Committees are presented in the rank order of priority score.

RPD = Research Program Development
RI = Research Infrastructure
CR = Clinical Research
F = Foundations

CENTER Recommendations

#1. Implementation of a CENTER concept that is initiated on the basis of current institutional strengths and existing resources. CENTER designations should be limited at the onset and should trigger a prioritization of resources to facilitate development of the designated programs. The process of establishing a new CENTER should involve the initial assignment of an area of strength as a Research PROGRAM and then require that the PROGRAM satisfy stringent criteria (with regard to faculty size; clear definition of mission; basic, translational and clinical components; funding plan; assignment of Advisory Panels, etc.) before becoming a Research CENTER. (1.41) RPD

#2. Initial research initiatives (investigator initiated) in an area should first be designated as PROGRAM until a level of development, organization, inclusion of translational research and other components are in place in the investigator initiated PROGRAM to warrant its designation as a CENTER. (1.39) RPD

#3. CENTER status and the accompanying eligibility for institutional support should be contingent on criteria that assure accountability and a high likelihood for accomplishment of CENTER/institutional goals. Criteria to be met should include:
  • Meaningful clinical/basic science interaction in terms of CENTER leadership, participants, shared research focus, training programs, mentoring, meetings, and patient involvement. The latter may involve specialty clinics, treatment protocols, utilization of clinical samples, etc.
  • A well-defined mission statement with plans to achieve each goal within a specific time frame.
  • An administrative structure and listing of all members who have agreed to an active participation in the CENTER mission.
  • A sufficient portion of membership with significant extramural support
  • Internal and External Advisory Boards. Appointments to the External Advisory Board should be made by the Chancellor from a submitted list of nationally recognized scientists. They should report directly to the Chancellor.
  • A funding plan/annual budget that identifies needs, sources of funds, and proposed expenditures
  • A periodic progress report to the Chancellor and/or Research Council that includes demonstration of how local/state support is being leveraged into national funding and other means for achieving goals of CENTER. (1.24) RPD

#4. There should be established a Parent Organization Structure (POS) for CENTERS and PROGRAMS to help integrate basic and clinical research. The POS should publicize the concept, mission and ongoing activities of
the CENTERS to local and regional communities and to state leaders in a unified concerted effort. The POS should formalize and foster interactions with the BRF to help attract start-up industries to the InterTech Science Park/wet lab incubators. (1.74) RPD

#5. Indirect cost recovery allocations should be modified for use as a recruiting tool for CENTER faculty and to support CENTER development. (1.48) RPD

#6. There should be an administrative commitment to prioritize new revenue sources for the support of the institutional CENTER concept. (1.57) RPD

#7. The Malcolm Feist Cardiovascular Endowment should be aggressively applied toward the advancement of cardiovascular research at LSUHSC-S and for the furtherance of the CENTER concept, while preserving the endowment corpus. (1.48) RPD

#8. The two existing Centers (Feist-Weiller Cancer Center and Center of Excellence for Arthritis and Rheumatology) should continue to function in their present form and in accordance with the expectations and standards outlined in recommendation #3. (1.26) RPD

#9. Research activities of CENTERS should be housed in contiguous space and priority be given to space allocation on this basis, as space becomes available, assuming current standards of merit are also met. (1.99) RPD

#10. Make shared instrumentation purchased by CENTERS for CENTER Investigators accessible to the entire research community at LSUHSC-S. (1.70) RI

All Other Recommendations

#11. Enhance public education efforts and establish new mechanisms for communicating research activities at LSUHSC-S (1.24) F

#12. To establish an office of Human Protection/Regulatory Affairs that will assist the Associate Dean of Research in supervising clinical research and in the education of the faculty. (1.24) CR

#13. Attract greater financial support from private donors, pharmaceutical/biotechnology companies and the Louisiana legislature. (1.27) F

#14. Provide measures to facilitate faculty development and to increase translational research. (1.27) CR

#15. Establish an electronic patient record system. (1.29) RI

#16. Assist Foundations in establishing research support endowments for LSUHSC-S. (1.31) F

#17. Encourage and motivate LSUHSC-S faculty participation in public education and Foundation fund-raising activities. (1.31) F

#18. Establish a long term basis of financial support for the Research Core Facility. (1.38) RI #19. Develop mechanisms to retain mid-level clinical investigators with a proven track record at our institution, thereby impacting on the research culture of the institution. (1.39) RPD

#20. Perform a feasibility study on forming a Contract Research Organization (CRO) to assist the faculty in obtaining, performing and being adequately reimbursed for clinical trails research. (1.50) CR

#21. Expand the bioinformatics capabilities at LSUHSC-S. (1.51) RI
#22. Commercialize research discovery and grow innovation-based businesses in Shreveport/NW Louisiana. (1.54) F

#23. Hire a coordinator for clinical research (CCR) who will assist faculty with identification and access to existing resources for implementation of clinical trials and new drug development. The organized cooperative utilization of current resources will be undertaken. (1.59) CR

#24. Establish a Cooperative for Research in the Biomedical Sciences (CRBS) among regional institutions. (1.65) RI

#25. Develop a joint degree program in bioinformatics. (1.78) RI

#26. Establish a small animal imaging core facility at LSUHSC-S. (1.78) RI

#27. Establish a mechanism to encourage collaborations between the School of Allied Health Professions and School of Graduate Studies in academic programs and research. (1.80) RI

#28. There should be an individual on this campus to facilitate technology transfer and to act as a liaison with technology transfer at the LSU Systems level to ensure that the full capacity of the LSU System technology transfer resource be applied equally to LSUHSC-S. (1.84) F

#29. Educate and motivate faculty in economic development commitment and opportunity. (1.85) F
Recommendation #1: Implementation of the CENTER concept should be initiated on the basis of current institutional strengths and existing resources. CENTER designations should be limited at the onset and should trigger a prioritization of resources to facilitate development of the designated programs. The process of establishing a new CENTER should involve the initial assignment of an area of strength as a Research PROGRAM and then require that the PROGRAM satisfy stringent criteria (with regard to faculty size; clear definition of mission; basic, translational and clinical components; funding plan; assignment of Advisory Panels, etc.) before becoming a Research CENTER. (1.41) RPD

Background and Rationale:
There is general agreement on our campus that LSUHSC-S simply does not have the faculty size, FTEs, financial resources, and space to have Research Centers and Research Programs in a large number of areas of the biomedical sciences. Trying to develop too many areas of research may have been a mistake in the past. A plan in which there are numerous areas of research emphasis would dilute our resources, which are limited at the present time, and weaken the development of areas that could mature to a level of excellence.

Timeline and Implementation:
The timeline of developing new CENTERS will vary greatly. Newly established Research PROGRAMS may fail to meet the requirements to become a CENTER, or may require several years to achieve the status of a CENTER.

Cost:
Initial costs to become a Research PROGRAM will vary, but only limited support and University resources should be given to develop a Research PROGRAM. If a PROGRAM were not self-sustaining, it would likely have very little to no chance of success as a CENTER.

Outcome measure:
The success of CENTERS in this new framework as compared to the past success should reveal whether unification in the Institute framework is helpful and serves to promote interactions and achieve the objectives of individual CENTERS/PROGRAMS. Only PROGRAMS that satisfy the criteria for CENTER status should be designated a CENTER.
Recommendation #2: Initial research initiatives (investigator-initiated) in an area should first be designated as a PROGRAM until a level of development, organization, inclusion of translational research and other components are in place in the investigator-initiated PROGRAM to warrant its designation as a CENTER. (1.39) RPD

Background and Rationale:
Additional CENTERS and PROGRAMS will be developed on this campus. It is important that the designation of “CENTER” be used for research initiatives that have a good level of organization and include a basic science component, translational research activities, clinical research, and clinical applications. To promote the development of CENTERS, initial research initiatives in a specified area should be organized initially as PROGRAMS. This designation would foster interactions among faculty researchers with common interests and would allow proper development of the PROGRAM until its level of organization, funding, and membership justify its designation as a CENTER.

Timeline and Implementation:
Several ongoing research initiatives could readily achieve PROGRAM status and thereby begin the process of developing into a CENTER. These include cardiovascular, neurobiology, and infectious diseases. The exact timeline would vary for the PROGRAMS and would depend on the leadership of each PROGRAM guiding and fostering the process by which the PROGRAM develops to become a CENTER.

Cost:
Initial costs to establish a PROGRAM would be minimal.

Outcome measure:
The success of a PROGRAM would be judged by several criteria such as number of members, level of research activity and amount of extramural funding of its members, inclusion and recruitment of faculty members active in translational and clinical research, and development of a plan for conversion to a CENTER.
Recommendation #3: CENTER status and the accompanying eligibility for institutional support should be contingent on criteria that assure accountability and a high likelihood for accomplishment of CENTER/ institutional goals. Criteria to be met should include:

- Meaningful clinical/basic science interaction in terms of CENTER leadership, participants, shared research focus, training programs, mentoring, meetings, and patient involvement. The latter may involve specialty clinics, treatment protocols, utilization of clinical samples, etc.
- A well-defined mission statement with plans to achieve each goal within a specific time frame.
- An administrative structure and listing of all members who have agreed to an active participation in the CENTER mission.
- A sufficient portion of membership with significant extramural support.
- Internal and External Advisory Board. Appointments to the External Advisory Board should be made by the Chancellor from a submitted list of nationally recognized scientists. They should report directly to the Chancellor.
- A funding plan/annual budget that identifies needs, sources of funds, and proposed expenditures.
- A periodic progress report to Chancellor and/or Research Council that includes demonstration of how local/state support is being leveraged into national funding and other means for achieving goals of CENTER.

(1.24) RPD

Background and Rationale:
Prioritization of resources into a limited number of areas of biomedical research is recommended as the most effective means for achieving an enhanced regional and national stature for LSUHSC-S as a research and treatment facility. Such focused allocation of institutional resources should be accompanied by accountability measures that permit ongoing evaluation of the effectiveness with which institutional/State investments are utilized.

Implementation and timeline:
Programs which wish to be considered eligible for CENTER designation/support should submit proposals to the Chancellor indicating how they currently meet (or plan to meet) criteria listed. CENTER designation should be awarded by the Chancellor after consideration of the recommendations by the Research Council and the Parent Organization Structure (see Recommendation #4).

Cost:
There is no significant cost associated with implementation.

Outcome measures
- Overall impact on biomedical research and related patient care
- Leverage of State funding into extramural grant support
- CENTER-generated Foundation/endowment income
- CENTER-associated patient revenues
- Patient enrollment in clinical research
- Active translational projects
- Educational and training activities to include clinical fellows in basic science laboratories
Recommendation #4: There should be established a Parent Organization Structure (POS) for CENTERS and PROGRAMS to help integrate basic and clinical research. The POS should publicize the concept, mission and ongoing activities of the CENTERS to local and regional communities and to state leaders in a unified concerted effort. The POS should formalize and foster interactions with the BRF to help attract start-up industries to the InterTech Science Park/wet lab incubators. (1.74) RPD

Background and Rationale:
Additional CENTERS and PROGRAMS will be developed on this campus, and it is important that there be integration and exchange of information, technologies, and even scientists. Virtually all biomedical research will be anchored in molecular and biotechnological approaches and will apply these approaches to a variety of biomedical and clinical problems, be it cancer, infectious diseases, cardiovascular problems, etc. Resources available for publicity, education of political leaders, and fund raising should be unified and coordinated under one office, rather than competing entities. New sources for extramural funding apart from the state should receive serious consideration. The success of the BRF in obtaining potential funding for an Incubator Building and the recruitment by the BRF of start-up biomedical companies in the InterTech Science Park are very positive indicators that involvement of the private sector in our overall research strategy is well justified. The feeling that funds from industry are “tainted” and/or that collaborative research with the private sector is not appropriate are out-of-date ideas that exclude a major strategy to expand research on this campus and in our community. Interactions with pharmaceutical companies should be formally developed.

Implementation and Timeline:
The POS could be established in a step-wise manner over the next year or so under the direction of the Chancellor. The unification of our message to potential funding sources and to the leadership of our state should begin immediately, incorporating the LSUHSC-S Information Office, the LSUHSC-S Foundation and the BRF into this strategy. Mechanisms for aligning research goals and the vision of the BRF include offering adjunct faculty appointments for qualified employees of InterTech, subscription by industry to Research Core facilities, research contracts between InterTech inhabitants and LSUHSC-S employees, technology transfer arrangements, and other devices that promote research and research funding.

Cost:
Initial costs would be minimal and some funds from established endowments should be allocated. Also, combination of resources to have a unified message may reduce overall costs.

Outcome Measure:
The success of CENTERS in this new framework as compared to the past success should reveal whether unification under a POS framework is helpful and serves to promote interactions and achieve the objectives of individual CENTERS/PROGRAMS. Success is readily measured by amount of state and private funds raised once the CENTER concept is publicized, as well as by the nature of collaborations and contracts achieved with the private sector.
Recommendation #5: Indirect cost recovery allocations should be modified for use as a recruiting tool for CENTER faculty and to support CENTER development. (1.48) RPD

Background and Rationale:
Highly qualified NIH-funded faculty candidates have the potential of transferring grants with as much as a quarter of a million dollars annually in indirect costs to LSUHSC-S. Such indirects, generated from the candidate’s intellectual pursuits elsewhere, represent new revenues currently not in the LSUHSC-S budget. The plan for reapportionment envisions a short-term application of these indirects as a recruitment incentive, start-up package, and boost to CENTER development. As proven grant winners, recruited faculty with peer-reviewed funding will provide the best guarantee of a rapid increase in indirects as well as future competitiveness for research awards at this institution. Such an approach will “jump-start” the CENTER concept at this institution.

Timeline and Implementation:
For CENTER faculty recruits, the current distribution of indirect cost recovery (40% Chancellor, 12% Administration, 32% Department, 16% Investigator) should be modified on grants transferred to LSUHSC-S to have a distribution of 0% Chancellor, 50% to Investigator start-up package, 33% Department, 17% CENTER. Such distribution would only be in effect for the duration of the transferred grant. Upon competitive renewal or for any new grant submission, the distribution would revert to 30% Chancellor, 32% Department, 17% CENTER, 16% Investigator, 6% Grants Office.

Cost:
There are no costs associated with implementation of this recommendation.

Outcome measures:
• Recruitment success of funded senior investigators to take up leadership roles in CENTER research activities
• Increase in total indirects captured by LSUHSC-S over a 5-10 year time frame
• Overall increase in NIH funding
Recommendation #6: There should be an administrative commitment to prioritize new revenue sources for the support of the institutional CENTER concept. (1.57) RPD

a) Unexpected State revenues should be directed toward development of both the clinical and research activities of designated CENTERS.
b) Institutional support should include a plan for apportionment of enhanced clinical revenues, anticipated from new patient recruitment into CENTERS, to be applied toward clinical/basic research functions of the CENTER.

Background and Rationale:
Achievement of the CENTER designation should be synonymous with recognized institutional priorities in biomedical research. As such, CENTERS will provide well-thought out priorities that are “at-the-ready” to meet unexpected State revenue windfalls and budgetary requests. Well-established priorities should enhance institutional success in taking advantage of unanticipated funding opportunities. In the regional health care market where the principal competitive edge for a state institution is not physical amenities but state-of-the-art therapies founded in ongoing biomedical research, establishment of high-profile CENTERS is expected to attract new patient revenues previously captured by tertiary care facilities as in Dallas or Houston. Recognition of the role that research functions of CENTERS will have in capturing paying patient should include diversion of a portion of new revenues back to the CENTERS.

Timeline & Implementation:
Prioritization of funding towards designated CENTERS should begin immediately. CENTER Directors should develop plans and engage in negotiations for revenue sharing with respect to hospital and physician generated revenues stemming from CENTER activities.

Cost:
No cost is associated with implementation of this recommendation.

Outcome measures:
- Overall impact on biomedical research and related patient care
- Leverage of State funding into extramural grant support
- CENTER-associated increase in patient revenues
- Increased patient enrollment in clinical research
Recommendation #7: The Malcolm Feist Cardiovascular Endowment should be aggressively applied toward the advancement of cardiovascular research at LSUHSC-S and for the furtherance of the CENTER concept, while preserving the endowment corpus. (1.48) RPD

Background and Rationale:
A high level of institutional achievement should be expected in areas for which endowments have been provided, not only to fulfill expectations of donors but to encourage future giving based on the record of productive use of past donations. Existing strengths in cardiovascular research include a basic science program in ischemic vascular injury that has been repeatedly supported by an NIH Program Project grant; clinical investigators in surgery, neurosciences and medicine with interests in vascular damage associated with stroke, diabetes, etc. Within an organized CENTER structure, existing research strengths would be expected to enhance related clinical activities.

Timeline and Implementation:
An endowment advisory committee composed of appropriate civic, business, Foundation and faculty leaders should be formed to advise the Chancellor on management and disbursement of this endowment.

Cost:
No associated cost.

Outcome measures:
- Level of enhancement of clinical/basic science interactions with respect to CENTER development
- Community leadership involvement in institutional goals of CENTER development
Recommendation #8: The two existing Centers, the Feist-Weiller Cancer Center and the Center of Excellence for Arthritis and Rheumatology, should continue to function in their present form and in accordance with the expectations and standards outlined in Recommendation #3. (1.26) RPD

Background and Rationale:
The two state-supported Centers of Excellence (Feist Weiller Cancer Center; Arthritis and Rheumatology) have been functioning for more than 10 years and include components of clinical service, teaching, and research. Both Centers have been effective in developing varied programs in accordance with their original mandates. Other areas of existing institutional strength or with potential for development include:

Programs with Potential for Short-term Development into CENTERS:
These programs have resources either currently available or anticipated that might be available to serve as a nidus to catalyze the development of CENTERS.

- Cardiovascular Diseases – Malcolm Feist Endowment
- Neurosciences – State funding to be determined in the 2002 legislative session
- Infectious Diseases/Microbiology – AIDS funding, biotechnology collaborations, potential bioterrorism funding from state and/or federal sources
- Gene Therapy – State funding for gene therapy initiative

Programs with Potential for Future Development into CENTERS:
These programs have some resources and/or potential for obtaining more resources based on current interest in their subject and importance. However, either adequate funding and/or a significant program development is insufficient at the present time to place them in the programs with greatest potential for short-term development into CENTERS.

- Diabetes Mellitus – Endowed Chair to be filled
- Rural and Minority Health – Major funding applied for
- Aging and Senescence – Tremendous potential for multidisciplinary development
- Public Health – Need and funding potential are high but active core programs lacking

Timeline and Implementation:
Current Centers have existing strategic plans or program proposals that are in accordance with the expectations enumerated in Recommendation #3 with only minor modification. Designation of additional CENTERS will require approval of the Chancellor upon consideration of the recommendations of the Research Council and/or Parent Organization Structure (POS).

Cost:
There are no immediate costs associated with the decision to prioritize resources on the basis of CENTER designations.
Recommendation #9: Research activities of CENTERS should be housed in contiguous space and priority be given to space allocation on this basis as space becomes available, assuming current standards of merit are also met.  (1.99) RPD

Background and Rationale:
CENTERS succeed on the basis of interdisciplinary collaborations and scientific exchange. While CENTER-supported FTEs have in many cases benefitted Departmental goals, dispersal of CENTER faculty effectively prevents development of interactive basic and translational research programs. CENTER space allotments should also be subject to, and not supersede, existing criteria based on merit.

Timeline and Implementation:
Evaluation of space allotments should be ongoing, with new emphasis placed on CENTER needs.

Cost:
No appreciable cost is associated with implementation of this recommendation.

Outcome measures:
- Joint publications from newly approximated groups
- Number of co-investigator grants
- Program project and Center grant applications from CENTER investigators
Recommendation #10: Make shared instrumentation purchased by CENTERS for CENTER Investigators accessible to the entire research community at LSUHSC-S. (1.70) RI

Background:
The Feist-Weiller Cancer Center (FWCC) has served as a model for how present and future PROGRAM-specific CENTERS might both contribute to and benefit from the introduction of new research technologies. A substantial portion of the instrumentation in the recently established Research Core Facility (RCF) was purchased by the FWCC, and the FWCC continues to support the operation of these technologies. The subcommittee felt that a similar model should be adopted by future program-specific CENTERS.

Rationale/Impact:
Both the FWCC and the entire LSUHSC-S research community benefit from advanced research instrumentation maintained in a common core facility, such as the RCF. Yet there is a substantial contribution of funds from other entities to the successful operation of the RCF (the Office of Research, the Biomedical Research Foundation (BRF), the Gene Therapy Consortium) as well as faculty and staff not compensated by the FWCC. Thus, the FWCC both benefits from and contributes to the research infrastructure represented by advanced instrumentation.

Specific Goals/Objectives:
Shared instrumentation purchased by CENTERS for CENTER investigators should be accessible to the entire research community at LSUHSC-S. In return for access to shared instrumentation, LSUHSC-S should contribute to the operation of the new technology.

Time-frame:
The time-frame is determined by the rate of establishment of new CENTERS and the development of the current RCF with new instrumentation.

Implementation Strategy:
In the “charter” for a new program-specific CENTER, there should be wording that specifies 1) how access to each new type of instrumentation will be determined; 2) where instrumentation will be located; and 3) how instrumentation will be operated and maintained.

Cost:
The costs for instrumentation purchase will be included in the total budget for establishment of a new CENTER. The costs for maintenance and operation will be shared by the CENTER and other entities of LSUHSC-S by an agreement prior to establishment of the CENTER.

Measures:
As plans for each new program-specific CENTER are developed, the Research Council should verify that the policies of universal access and shared costs for operation and maintenance are included.
Recommendation #11: Enhance public education efforts and establish new mechanisms for communicating research activities at LSUHSC-S. (1.24) F

Background /Rationale:
To date, there has not been a systematic process for exposing the Shreveport/NW Louisiana community to the research aspect of the LSUHSC-S campus. The impact of educating the community citizens on current research and market potential of such research will facilitate our fund raising efforts for research activities.

Goal/Implementation
1. Identify existing programs in public education with the assistance of the Office of Information Services at LSUHSC-S.
2. Establish new mechanisms for communication of LSUHSC-S faculty research:
   a. Hire a full time public relations person.
   b. Create a formal speaker’s bureau with disease-oriented and translational research focus.
   c. Feature faculty research and community impact on LSUHSC-S webpage and create a research focus media plan that identifies the media outlet (TV, radio, newspaper) targeted for coverage. Also promote research articles in local publications (e.g. Forum, City Lights, etc).
   d. Develop a LSUHSC-S research brochure and video as educational tools to promote research literacy in the community to be complemented by scheduled tours of research facilities.
   e. Establish relationships and work with community groups and local chapters of Disease Foundations (e.g., Breast Cancer Foundation, March of Dimes, Cystic Fibrosis Foundation, etc).
   f. Encourage parental involvement in targeted research programs for high school and college students.
   g. Work with campus police and physical plant management to increase public perception of safety and user friendliness of LSUHSC-S campus.
3. An effort should be made to coordinate fund-raising efforts among all Centers.
4. A priority will be to expand the audience (e.g. select public groups) to receive the monthly LSUHSC-S “On the Inside” bulletin and to identify the funding sources for this mailing.

Cost:
Salary for full FTE for Public Relations specialist, operational costs.

Timeline:
The above-proposed goals can be implemented within 2 years with annual evaluation of outcome and proposals for changes through years 5-20.

Impact:
A well-organized effort will promote research literacy in the community that results in a better appreciation by the public of the research activities (and discoveries) of the faculty at LSUHSC-S. This should encourage financial support for research and development.

Progress measures:
Success can be determined by the existence of a centralized office and a full time Public Relations specialist to coordinate all fund-raising efforts and information dissemination, and increased public interest and LSUHSC-S faculty participation.
Recommendation #12: To establish an office of Human Protection/Regulatory Affairs that will assist the Associate Dean of Research in supervising clinical research and in the education of the faculty. (1.24) CR

Background:
The institution currently does not have a Compliance Person/Program that focuses on the aspects of Research Compliance not having to do with billing issues. A Compliance Program focusing on FDA, NIH and other Federal issues such as Conflict of Interest and Responsible Conduct of Research Education needs to be developed.

Rationale/Impact:
The Federal Government through the FDA, the Office of Human Research Protections (OHRP), and the Office of Research Compliance and Assurance (ORCA) (Veterans Administration) are all actively looking at human subjects research with a focus on issues in this area. One or more of these agencies have shut down all research at some major universities such as Johns Hopkins, Duke and UTMB for various periods of time, with much adverse publicity and impact. LSUHSC-S needs to develop programs in response to these issues to ensure that we come into compliance with quickly evolving Federal rules and regulations.

Specific goals/objectives
1. Develop Policies/Procedures to monitor Conflicts of Interest (COI).
2. Develop Policies/Procedures to deal with (manage) any identified COI.
3. Develop Policies/Procedures and Programs to provide on-going education in the Responsible Conduct of Research (RCR) to all personnel (IRB members, PIs, Co-investigators, Clinical Coordinators, etc) who are involved with Human Subject Research.
4. Develop a system to monitor and track RCR educational efforts.

Timeframe for achievement of goals(s):
Since this is a focus for investigation and adverse actions by the various Federal Agencies, the quickest possible implementation is required. COI needs to be addressed as soon as possible. RCR implementation deadlines are currently undefined. (Timeframe for RCR should be no more than 2 years).

Implementation strategy:
A Director for Human Research Protection needs to be hired to implement these programs. This person should report to the Associate Dean for Research or someone in her area. They can develop the programs, keep current with changing rules/procedures, develop the necessary databases and maintain the information.

Cost Estimates:
Using the existing level of Research Compliance position, plus benefits, plus funds for computers, travel, and educational programs for researchers about $120,000 per year.

Progress Measures:
No adverse actions by regulatory agencies; accreditation by AAHAP, NCUA or other accrediting body; documentation of COI activities; documentation of RCR educational activities.
Recommendation #13: Attract greater financial support from private donors, pharmaceutical/biotechnology companies, and the Louisiana Legislature. (1.27) F

Background/Rationale:
To realize the long-term growth potential of basic, translational applied, and entrepreneurial research at LSUHSC-S, we must establish a visionary strategy to attract major financial commitment from contributors such as the pharmaceutical/biotechnology companies, the Louisiana State Legislature, and planned giving by private donors.

Goal/Implementation
1. Stimulate interest and support from pharmaceutical/biotechnology companies through engagement in entrepreneurial research and science commercialization. Interface efforts with the State Economic Development Subcommittee.
2. Enhance community awareness and impact of disease-related and translational research of faculty at LSUHSC-S to motivate planned giving (e.g. Endowments) by private donors. Interface efforts and work with the Research Development Committee as they identify and develop research programs and supporting infrastructure in Centers of Excellence at LSUHSC-S.
3. Create mechanisms to increase support for research at LSUHSC-S from the Louisiana State Legislature:
   a. Increase economic development efforts e.g., innovation-based businesses in Shreveport/NW Louisiana region.
   b. Hire a full time lobbyist to represent the LSUHSC-S campus at LSU and national Legislative sessions and to encourage regular visitations by LA legislators to LSUHSC-S.
   c. Stimulate faculty interest and contribution/involvement in Legislative initiatives that impact research growth at our campus. Improve communication of Legislative activities from the administration to the faculty.

Cost:
Time commitment by faculty and Foundations in interfacing of activities, FTE for lobbyist funded by the Foundations.

Timeline:
Implementation of proposed plans will take short- and long-term commitments (2-20 Years) as research grows at the institution.

Impact:
More research dollars, promote faculty retention and recruitment of outstanding new faculty, increase visibility and image of LSUHSC-S.

Progress measures:
Success can be determined by increased support of faculty entrepreneurial research by pharmaceutical/biotechnology companies, increased allocation of research dollars from the State and Federal Legislature, increased start-up of innovation-based businesses, and greater LSUHSC-S faculty participation in out-reach efforts to promote faculty research.
Recommendation #14: Provide measures to facilitate faculty development and to increase translational research.  
(1.27) CR

**Background:**
Currently, the research interests of clinicians are poorly communicated to basic scientists and *vice versa*. The objective is to increase the interaction between clinical and basic science faculty thus promoting translational research.

**Rationale/impact:**
The impact will result in increased translational research being conducted on campus that would attract federal support.

**Specific goals/objectives:**
1. Improve awareness of research interests between clinical and basic science faculty.
   a. Create a matching system for clinicians and basic scientists to increase communication between scientists of similar research interests.
   b. Improve dissemination of seminar and grand round topics by combining all into a single weekly email. (a and b could be conducted by the library or grants office)
   c. Include more clinical presentations in the basic sciences seminar series.
   d. Establish a seminar series covering “hot-topics” of translational research.
   e. Create an intramural “translational” award in which the proposal must have one investigator from a clinical department and one investigator from a basic science department.
   f. Create a mentoring reward system - $1000-$2000 given to a host laboratory to harbor a clinical researcher.
2. Improve clinical departments to achieve research goals
   a. Award paid protected time to clinical faculty doing research.
   b. Reward clinical departments that obtain federal grant funding.
3. Improve the grant writing skills of clinicians
   a. LSUHSC should host grant-writing workshops offered by the Board of Regents or interested clinicians could enroll in grant-writing courses in basic science departments.
   b. Pre-submission of intramural grants from grant writing novices to a review panel.
   c. Novices should attend an intramural grant review panel.
4. Establish a Faculty Club located either on campus or at a purchased off-campus site.

**Time frame for achievement of goal(s):**
Achieve goals within 2-5 years

**Implementation strategy:**
All aims could be implemented immediately.

**Cost estimates for achieving goals/objectives**
Translational grant award: 2 awards $10,000, twice a year = $40,000.
Mentoring awards: 3 awards for $2,500, three times a year = $22,500.
Seminar series/symposium – 4 speakers $10,000.
Faculty Club?

**Progress measures:**
Measure progress by the number of successful federal awards.
Recommendation #15. Establish an electronic patient record system. (1.29) RI

Background/Rationale/Impact:
Effective clinical research requires a patient population whose clinical and demographic characteristics are accurate and easily accessible. The main clinical strength of the Louisiana State University Health Sciences Center at Shreveport is the number and variety of diseases and their diverse clinical presentations in our patients. Unfortunately, one of the major impediments to studying these patients at LSUHSC-S is the inability to efficiently organize them into appropriate cohorts and gather the data. An electronic patient record system would simplify this process by facilitating the rapid, precise selection of research subjects based on multiple simultaneous parameters and allowing cross-referencing with still additional parameters. This system would significantly increase the quality and quantity of clinical research performed at LSUHSC-S by improving the speed and precision of patient selection and the gathering of the data.

Specific Goals/Objectives:
The goal of this proposal is the acquisition of an electronic patient record system with significant adaptability and programming capability, allowing the easy cross-referencing of multiple patient characteristics simultaneously. Ideally, the system would contain all clinical test results including the clinical laboratory, radiology and pathology (the procedure performed, the tissue biopsied, the interpretation, diagnosis and interpreting physician’s name), medical records (dates of admission and discharge, the names/dates/results of all studies performed and the patients’ discharge diagnoses), patient demographics and physician billing’s diagnoses. Additionally, the system should be accessible from anywhere within the LSUHSC-S network by anyone with appropriate access credentials. This system would replace the current hospital Invision system for access to all patient results.

Time-frame for achievement of goal(s)
At 2 years the available systems would have been evaluated and one selected.
At 5 years the system would be purchased, installed, and in use.
At 10 years the system would have been updated/upgraded to improve its efficiency and utility.

Implementation strategy:
At 2 years a committee headed by the Chairman of the Department of Biometry and consisting of a hospital administrator, and at least one faculty member from each basic and clinical department and CENTER would evaluate multiple “Electronic patient record systems” and select the system which provides the most adaptability, flexibility and user simplicity.

At 5 years the system would have been purchased and installed in the hospital and the LSUHSC-S intramural network and all of the necessary clinical information entered. Additionally, all interested users would receive training and an access code. The clinical lab, pathology, radiology, medical records and physician billing all would input their information directly into the system. The system would be maintained by the hospital but administrated by the Department of Biometry and informatics.

Cost estimates for achieving goals/objectives:
The cost estimate is approximately $5 million to purchase, install and maintain the system, and approximately $200,000 to enter preexisting data into the system.

Progress measures:
Several parameters would be used to assess the successfulness and impact of this project including clinically related grants and the dollar amounts generated, the number of clinical research publications, and the number of institutional review board protocols initiated and maintained as active.
Recommendation #16: Assist Foundations in establishing research support endowments for LSUHSC-S. (1.31) F

Background:
To date, Foundation support of research efforts at LSUHSC-S has been solely from the Biomedical Research Foundation of Northwest Louisiana (BRF). Funds from the BRF have been used to help support the LSUHSC-S intramural research program, budget and equipment service contracts for affinity groups housed in the BRI, seed packages for newly recruited faculty and other research projects of special interest to the BRF. The newly formed LSUHSC-S Foundation has not yet provided research support but it is part of their mission to support research in the future.

Rationale:
The majority of research funding at LSUHSC-S is obtained through competition at the national level. In the past (1995-1997) the BRF investment in intramural programs has resulted in a 10-fold return in federal funding. Thus, a small local investment in research produces a high return in national funding. Currently, the funding of intramural research proposals, seed packages and centers relies on funding that is not recurring and therefore places our ability to support intramural research, recruit new investigators and maintain center operations on less than secure footing. The establishment of endowments for the intramural research program, seed packages and centers would provide a more secure research support environment at LSUHSC-S.

Goals and Objectives:
It is recommended that three types of endowments be established through the Foundations. (1) An endowment to provide support for the existing intramural grant program. This program would continue to fund grant-in-aid and bridging grants. Its existence would be secured by the establishment of an endowment. (2) An endowment to provide support for seed packages for newly recruited faculty. The lack of consistently available start-up funds is a continual problem that threatens our ability to recruit high quality researchers. (3) An endowment to aid in funding the existing and proposed CENTERS. The CENTER endowments would be CENTER specific, i.e., a cancer center endowment.

Timeframe and Cost:
In the current climate a 3.5% annual return on an endowment is expected. At historical levels of intramural funding, it is expected that an intramural research support endowment would award approximately $200,000/yr to LSUHSC-S investigators. To reach this level of funding the endowment would need to be approximately $6,000,000. It is anticipated that it will take 10 years to reach this level. For the first 5 years, the annual return on the endowment should be reinvested in the endowment. By year 5 there should be sufficient money to begin a partial funding of intramural research. The seed package endowment fund will need to be large in size. It is expected that this endowment fund would provide only matching funds, to be limited by $100,000 per start-up package. Each CENTER is expected to take the responsibility for establishing financial goals and regulations that govern CENTER endowments.

Implementation:
The LSUHSC-S faculty and administration will work together with the LSUHSC-S Foundation, BRF and other relevant Foundations to develop and implement strategies for endowment fund-raising. These efforts will focus on increasing the visibility of LSUHSC-S and enhancing our standing in the community. Such efforts would include: (1) the establishment of a speaker’s bureau for each endowment so that speakers would be available for community outreach events; (2) hiring a public relations agent; 3) sponsoring open houses at LSUHSC-S and the Biomedical Research Institute; 4) placing LSUHSC-S signage on campus buildings that is visible from the interstate highways.

Progress measures:
The success of the endowments will be measured by the impact of the endowment disbursements on research at LSUHSC-S. This would include an analysis of whether projects funded by endowment disbursements resulted in the sponsored investigator subsequently obtaining national funding. Additionally, the analysis will assess whether the endowments are growing at a pace that can have a significant impact on the growth of research at LSUHSC-S.
Recommendation #17: Encourage and motivate LSUHSC-S faculty participation in public education and Foundation fund raising activities. (1.31) F

Background/Rationale:
In general, the LSUHSC-S faculty has a lukewarm attitude towards participation in public speaking to a lay audience. Traditionally, because funding support of academic research was principally derived from Federal Health Agencies and National Health-related private Foundations, the faculty has largely not been directly involved in raising research dollars from the community citizens. We can support the fund-raising efforts of the Foundations by helping to increase public awareness of the health impact of the research activities at LSUHSC-S and the potential community impact of such activities.

Goal/Implementation
1. Educate the faculty on the importance and built-in benefits of their participation in Foundation fund-raising efforts through targeted seminars. Promote recognition of the potential market value of entrepreneurial research and science commercialization.
2. Encourage faculty participation in the speaker’s bureau especially those with research programs that have disease-oriented and translational research focus.
3. Encourage faculty input and involvement in the Foundation-driven creation of new mechanisms for information dissemination to the public: research focus media plan, LSUHSC-S research brochure, scheduled tours of research facilities, targeted research programs for high school and college students.

Cost:
Time commitment by LSUHSC-S faculty

Timeline:
Education of existing LSUHSC-S faculty can be achieved within 2 years with annual seminars for new faculty thereafter. Faculty participation in the efforts of the Foundations in public education and fund raising should be a short- and long-time commitment.

Impact:
Immediate impact will be an increase in community-derived research dollars. Gains for entrepreneurial and innovative faculty resulting from their contacts established with the public/businesses. Participation of high school and college students in faculty research should stimulate and enhance student recruitment into our graduate school.

Progress measures:
Success can be determined by increased faculty involvement and assistance in the Foundations efforts in fund raising and public speaking, as well as enhanced public interest and financial contribution to faculty research.
Recommendation #18: Establish a long term basis of financial support for the Research Core Facility. (1.38)

RI

Background:
In the summer of 2000, the Research Council established the Research Core Facility for the purpose of providing access to state-of-the-art technologies to the research community at LSUHSC-S.

Impact:
The RCF is still a developing entity on this campus, however its impact has been remarkable. Nearly 50 investigators have used, or are currently using at least one of the RCF technologies in their ongoing research programs and new users are being brought in on a weekly basis. The RCF provides a very strong tool for the recruitment of new faculty, post doctoral scientists and graduate students to this campus, and tours of the RCF for various individuals are given several times each week. In addition, the RCF serves as a potential bridge between LSUHSC-S occupants of Intertech, currently under development by the BRF. Thus, the continued operation, development and expansion of the RCF is absolutely vital to the future development of research on this campus.

Specific objectives
1. Funding for RCF staff (Lab Manager and 4 Research Associates).
2. Funding for equipment service and maintenance.
3. Funding for new equipment needs.
4. Funding for future development.

Implementation strategy:
Possible sources include funds available to the Research Council, direct funding from the BRF, funding from the Dean’s Office, capture of indirect costs from extramural grants, funding from the Feist-Weiller Cancer Center and/or funding from a private donor.

Cost estimates:
The cost of salaries plus benefits for the two Research Associate positions will be approximately $90,000 for the 2003-2004 fiscal year and will likely increase in successive years from merit increases for these individuals.

The RCF currently houses approximately $2,000,000 worth of equipment, much of which is past its original warranty and service contract period. As service contracts generally cost 10% of the original price of the equipment, a rough estimate of the service costs for the RCF is $200,000/year.

Immediate equipment needs include a new flow cytometer/cell sorter which costs approximately $480,000. There is often a significant backlog for cell sorting time, ranging from a few days to 3 weeks which can only be alleviated by the purchase of a second instrument. In addition, the need for a second digital fluorescence microscope is likely in the next 1-2 years. Over the next 2-5 years, likely needs include a new mass spectrometer, and a system for making and analyzing custom DNA arrays.

Future development of additional technologies for the RCF will be driven by the specific needs of the research community, both present and those to be recruited. Costs for equipment for each technology will vary widely, but will be in the $100,000 to $500,000 dollar range in most cases. Additional technologies will also likely require an increase in the size of the support staff.

Progress measures:
Progress in the development and operation of the RCF can be objectively measured in several ways. The number of users of the RCF should increase to a plateau at around 50% of the active researchers at this campus over the next two years. Additionally, the amount of usage should similarly increase by an estimated 10% per year over at least the next 5 years. Finally, the number and dollar amounts of extramural grants that use the RCF should increase every year over the next 10 years. A system for tracking the use of the RCF by new grants will shortly be put into place by the Office of Grants Administration.
Recommendation #19: Develop mechanisms to retain mid-level clinical investigators with a proven track record at our institution, thereby impacting on the research culture of the institution. (1.39) RPD

Background and Rationale:
Funded and well-published clinical investigators are beneficial to the institution. They serve as collaborators to basic scientists and mentors to trainees and junior faculty members. They are able to recruit and to help retain top tier faculty members, increase national and regional visibility, attract research dollars and provide leadership in clinical research. In the future, they will support the planned clinical investigator training fellowship program.

Implementation:
Through the CENTER-based mechanism, funds will be obtained for a critical mass of mid-level clinical investigators who are beyond the initial recruiting seed package.

Timeline:
5 years – Commitment of resources by the participating Departments for this CENTER-based support of designated clinical investigators. This entails the allocation of resources (including funding) by each Department who wants to participate, development of the CENTER-based Evaluation Committee to identify worthy clinical investigators, funding of those investigators, and annual review for continued productivity of these funded individuals.
10 years – Develop fund-raising mechanisms to create a new tier of faculty members that will be awarded with endowed chairs. These are reserved for those successful clinical investigators that have academically developed into these positions as a direct result of the clinical investigator funding mechanism.
20 years – As the academic culture of the institution evolves, the targeted endpoints are: 1) improved ability to recruit and retain better scientific investigators, 2) increased extramural research dollars, 3) defined and established clinical and basic science collaborations, 4) increased local, regional and national recognition for the “CENTERS”, and LSU as a whole, and 5) with CENTER recognition, increase clinical volume.

Cost:
Initial investments must be made by each department who wants to “play” in this CENTER-based support of clinical investigators. Eventually, this will be a self-perpetuating program with cost recovery from increased indirect costs from extramural funding, increased clinical activities from clinical expertise associated with these CENTERS, and fund raising efforts targeted at community leaders for specific CENTER-based disease group.
Recommendation #20: Perform a feasibility study on forming a Contract Research Organization (CRO) to assist the faculty in obtaining, performing and being adequately reimbursed for clinical trials research. (1.50)

Background:
A Contract Research Organization (CRO) can be narrowly or broadly defined. At a minimum, a CRO is compensated by a drug company sponsor in exchange for services which lead to successful performance of a clinical trial. Services may include assessment and advertisement of capabilities, placement of protocols at sites, contract and budget negotiations, execution of CDA’s, management of regulatory documents including IRB approvals and SAE reporting, participation in and scheduling of audits, patient recruitment and enrollment tracking, site monitoring, case report form collection, data analysis, investigator training, reporting to the sponsor in a format suitable to the FDA, and development of a business plan which meets competition from other organizations. The CRO may be paid by several plans. One is to retain funds remaining between lump sum from the sponsor and that paid to the sites. Another is on the basis of site participation and subject enrollment. Payment plans include three elements: actual study costs at the sites, study administration costs including site monitoring, and funds to sustain the CRO as a business. This latter can include “profit”. (Other Background materials and rationale are available on request.)

Rationale/Impact:
The basis for an Academic Medical Center CRO is streamlined services.

Specific Goals/Objectives
1. Conduct a feasibility study that addresses the scope of services desired with the assistance of the BRF and community leaders.
2. Develop administrative guidelines, facilities, staff, and plans for funding

Time-frame:
Depends on final goals and outcome of feasibility study.

Implementation Strategy:
Depends on goals and scope of the CRO.

Cost Estimates:
Depends on services and should be self-sustaining in three years.

Progress Measures:
Complete within one year a feasibility study on a CRO for LSUHSC-S
Recommendation #21: Expand the Bioinformatics Capabilities at LSUHSC-S. (1.51) RI

**Background:**
At present, to support Bioinformatics, we have a relatively new Affymetrics system that provides some database and analysis tools. We search public databases for protein matches based on Maldi-Tof mass spectrometry. We also have a rudimentary clinical data warehouse recently installed in Physician Billing Services. Finally, we have Internet 2 access at 12mbs in the BRI and medical school buildings. In these buildings, we have recently upgraded local area networks with Internet 2 compliant hardware.

**Rationale/impact:**
The emerging fields of genomics and proteomics are so dependant upon computer and information technology that new discoveries demand extensive support from the field of bioinformatics. Other areas of clinical and basic research also rely on bioinformatics professionals and upon information technology.

**Specific goals/objectives:**
Over the next 5 to 10 years, we will need additional hardware, software, faculty and support personnel to develop proteomics research. Particular areas of research involve (1) the use of proteomics to design drugs for specific proteins and (2) finding proteins that fit with specific compounds. “Docking software” would help create virtual, 3-dimensional protein structures.

**Time-frame & Implementation:**
Within the next two years, we need to develop a bioinformatics core group. A Ph.D.-level bioinformatics specialist with a demonstrated, funded research program should be recruited and hired. Start-up funds should be identified for equipment and a small support staff. Notably, this group could offset much of their expenses through cost savings for the hospital that could be generated through the management of a clinical data warehouse for outcomes research.

Within five years there will be an increasing need for bandwidth to Internet 2. Again, this is a straightforward information technology purchase.

Over the next 10 years, there will be an increasing need for trained bioinformatics technicians and support personnel. Many of these types of professionals could be trained within the state through the collaborative development of a bioinformatics training program.

**Cost:**
- Clinical image data warehouse and computer-based analysis tools for research. $750,000
- Develop a bioinformatics core group: One-time cost: $750,000. Recurring cost: $375,000.
- Within five years there will be an increasing need for bandwidth to Internet 2. Again, this is a straightforward information technology purchase. Recurring cost: $50,000.
- Over the next 10 years, there will be an increasing need for trained bioinformatics technicians and support personnel. See recommendation #24: “Develop a joint degree program in bioinformatics”.

**Progress measures:**
How closely has the implementation strategy been followed? Have the proposed one-time and recurring funds been identified?
Recommendation #22: Commercialize research discovery and grow innovation-based businesses in Shreveport/ NW Louisiana. (1.54) F

Background and Rationale:
The traditional model of academic research at LSUHSC-S has failed to maximize the worth of research innovation to impact the non-scientific and business community of Shreveport/NW Louisiana. Furthermore, the growth of research innovation-based businesses in this area has been hindered by the absence of the necessary infrastructure to promote such activity. Our research growth (and commercialization) can serve as an economic engine for the community which will translate into new jobs within and without LSUHSC-S that are created from faculty research enterprises.

Implementation:
A strategic plan should be developed with the assistance of the Foundations to:
1. Foster relationships with sources to provide venture capital to support technology transfer
2. Provide venture capital support for technology based start-up companies involving faculty innovators at LSUHSC-S.
3. Assist in the development and training of a technology trained workforce and provide wet- lab and technology incubator services and programs
4. Expand our market capabilities by supporting the Foundations efforts to recruit out-of-region or out-of-state technology companies

Cost:
Time commitment

Time line:
Development of a strategic plan and Implementation 1 (foster relationships with venture capital sources) can be accomplished within 2 years. Realization of the goals outlined in Implementation 2 – 4 will be linked to how we grow our research as an economic engine for the community (5- 20 years).

Impact:
Gains for individual faculty, LSUHSC-S, the Foundations and economy of Shreveport/NW Louisiana. Importantly, an increased economic growth in this region will attract greater investment and support from the Louisiana legislature.

Progress measures:
Success can be determined by increased venture capital support for technology transfer and science commercialization, increased technology trained workforce and LSUHSC-S faculty involvement in start-up companies, and the increased location of out-of-region/out-of-state technology companies to NW Louisiana.
Recommendation #23: Hire a coordinator for clinical research (CCR) who will assist faculty with identification and access to existing resources for implementation of clinical trials and new drug development. The organized cooperative utilization of current resources will be undertaken. (1.59) CR

Background:
Clinical researchers at LSUHSC-S currently are not able to get any centralized support in the initiation/administration of their clinical research projects. New investigators frequently do not have the resources to initiate clinical projects. Although Industry provides financial support, the new investigator usually does not have enough funding to pay for personnel to do all the required support efforts. As well, no centralized education or training is offered for those engaged in clinical research.

Rationale/Impact
1. CCR will provide direct support to clinical investigators that fit the profile of the investigators in most need of support – young, initial, and small investigators.
2. CCR will strengthen all clinical research grant applications – leading to more successfully funded extramural grants.
3. CCR will work with existing clinical trials support units at LSUHSC-S to provide services to new investigators.
4. CCR will provide educational services for new investigators.
5. CCR will assist in the contract negotiations with the investigators and establishing an accurate budget.
6. CCR will assist the investigators in negotiations with the FDA concerning NDA’s.

Specific Goals/Objectives
1. Hire a CCR to provide services outlined above.
2. Determine policies for integrating services already provided at LSUHSC-S (e.g., Cancer Center Core, Department of Biometry, PPRU Core).
3. Develop an educational program for new investigators.

Time Frame for Achievement of Goal(s):
Hire a CCR within one year

Implementation Strategy
1. Provide salary support for CCR.
2. CCR will administratively be supervised by the Associate Dean of Research.

Cost Estimates for Achieving Goals/Objectives
1. $50,000/year for CCR.
2. $10,000/year budget for the office.

Progress Measures:
Identify percentage of grants using the CCR and track funding associated with company supported trials recruited by CCR.
Recommendation #24: Establish a Cooperative for Research in the Biomedical Sciences (CRBS) among regional institutions.  (1.65) RI

The subcommittee understood its charge to be a consideration of the relationship of program-specific CENTERS to the research infrastructure at LSUHSC-S, both present and future.

Background:
LSUHSC-S is the sole academic health sciences center in the Ark-La-Tex region. With a well-organized and concerted effort, LSUHSC-S could serve as a catalyst for biomedical research cooperation among regional institutions.

Rationale/Impact:
LSUHSC-S could provide numerous services and resources that are not duplicated in regional institutions, including a patient population, faculty expertise, wet laboratories, a technology transfer infrastructure, IRB support, the means for participation in clinical trials, and specialized reagents.

Specific Goals/Objectives:
Establish a Cooperative for Research in the Biomedical Sciences (CRBS) among regional institutions. Participants could include the BRF, InterTech, the LSUHSC-S Foundation, Louisiana Tech, LSU-S, Centenary College, Willis-Knighton Medical Center, Schumpert Medical Center, physicians in private practice, pharmaceutical companies, and biotechnology companies.

Time-frame:
Five years

Implementation Strategy:
The CRBS would be established by formalizing cooperative interactions that would allow institutions to compete more effectively for state and federal funds. The BRC would also actively recruit clinical trials sponsored by pharmaceutical companies. This would maximize utilization of regional intellectual and patient resources.

Cost:
A small staff would be needed to coordinate efforts of existing faculty and staff, costing perhaps $50,000 per year. Alternatively, existing personnel could be redirected to achieve this goal.

Measures:
An oversight body, e.g., the Research Council or a committee appointed by the Associate Dean of Research, could periodically monitor the steps being taken to establish a CRBS.

**Recommendation #25: Develop a joint degree program in bioinformatics. (1.78) RI**

**Background:**
There is no generally accepted definition of the term bioinformatics, but for this campus, the needs of the research community can define a working definition: (a) the processing and storage of information, (b) the creation of databases that contain both research and clinical information, and (c) the ability to compare data patterns to identify trends across multiple variables and to identify clinical correlates between disease states and underlying genomic or proteomic information.

**Rationale/impact:**
Over the next five to 10 years, there will be a need for a staff of bioinformatics professionals that can provide consulting expertise and conduct basic and clinical research. However, trained bioinformatics professionals are scarce and expensive. These types of professionals could be trained on this campus through the collaborative development of a bioinformatics training program.

**Specific goals/objectives:**
At a minimum, there would be five Ph.D.-level faculty members with the following expertise: (a) a Director with a proven research record in medical informatics, and four Ph.D.-level staff with some experience in bioinformatics and specialties in: (b) computer science, (c) biomedical engineering, (d) biochemistry, and (e) statistics. This staff could not only provide consulting expertise and conduct clinical and basic research but would also be the foundation for the training program in medical informatics.

**Implementation strategy:**
A joint planning effort has already begun. Strong collaborative ties with Louisiana Tech and with LSU-S are necessary to develop a viable training program. For the first few years, graduates of such a program would not necessarily be Ph.D.-level bioinformaticians, but rather, Master’s-level technicians that are needed to staff campus research labs. Ph.D. graduates would probably not emerge from the program within the first 6 years.

**Cost:**
Because many universities throughout the country are scrambling to create such a training program, assembling this group of faculty would be difficult and expensive. One possible way to build this core expertise would be to identify a commercial enterprise that would agree to relocate to Shreveport and would hire (full or part-time) this core of professionals who might also be educators. Otherwise, the actual cost of such a program would probably be about $600,000 per year for faculty and staff, $200,000 in yearly operational costs, and $1,000,000 in one-time start-up costs. (Note that $750,000 of these one-time costs are also part of Recommendation #21: “Expansion of Bioinformatics Capabilities”.

**Progress Measures:**
* Development of a joint plan
* Number of graduates would be the primary measure.
* A secondary measure would be number of graduates who find employment in Louisiana.
Recommendation #26. Establish a small animal imaging core facility at LSUHSC-S. (1.78) RI

Background:

Advances in imaging technologies over the past 5 years have allowed for the design, construction, and marketing of high resolution and high sensitivity dedicated animal imaging devices. The Federal Government has seen fit through both NIH and NCI to sponsor several small animal imaging based RFA's to help the nation’s universities begin to take advantage and intelligently develop the use of these new technologies. Primary among these devices are microCT, Ultra-High field animal MRI, bioluminescence imaging systems, and dedicated high resolution PET scanners. LSUHSC-S is acquiring a small animal PET scanner in late 2002/early 2003. Original funds for the small animal PET scanner are coming from Gene Therapy funding sources.

Small animal models, particularly genetically engineered mice, are increasingly recognized as powerful discovery tools in medical research. The potential that could be realized by the use of animal models has not yet fully been realized. One of the limitations is the need to sacrifice the animals to perform tissue or molecular analysis. This prevents researchers from observing in vivo the natural or perturbed evolution of the processes under study. Functional, molecular, and morphologic quantitative imaging techniques are an important tool for providing data about biochemical, genetic or pharmacological processes in vivo, and repetitively in the same animal.

Specific Goals and Objectives:

The primary goal is to create a small animal imaging resource to be shared by the LSUHSC-S medical community. The imaging resource will provide scientists and engineers with a suite of imaging tools for in vivo analyses in living animal models.

Time Frame for Achievement of Goals:

Within 2 Years the acquisition and operation of the MicroPET should be completed.
Within 5 years the acquisition and operation of MicroCT, Bioluminescence system, and Animal MRI should be completed.
At years 10 and 20, new emerging technologies should be identified and purchased.

Cost Estimates:

The cost of initial purchase of the MicroPET will be approximately $450,000. Annual operations costs, including salary and maintenance will be approximately $140,000. Costs for additional years will depend on the nature of new equipment added to the core.

Progress Measures:

Utilization Metrics:
- Number of research groups utilizing the resource per annum
- Number of funded research projects utilizing the resource per annum
- Number of funded research projects utilizing piece of equipment per annum
- Number of individual studies performed utilizing each piece of equipment per annum

Acquisition Metrics:
- New Technologies positively assessed, acquired, and pressed into service

Economic Metrics:
- Revenue/Expense, Cash flow
Recommendation #27: Establish a mechanism to encourage collaborations between the School of Allied Health Professions and the School of Graduate Studies in academic and research programs. (1.80) RI

Rationale:
LSU Health Sciences Center-Shreveport encompasses three schools which share a mission statement dealing with research, teaching, and patient care. The School of Allied Health Professions offers a number of expanding clinical services, graduate prepared faculty, and improved funding potential. The School of Graduate Studies offers established, rigorous graduate programs for obtaining both the MS and PhD degrees. Collaboration between the two schools would support the long-range goal of bridging the basic sciences with clinical research.

Implementation and Time Lines:
1. Having the opportunity for Allied Health faculty to acquire affiliate faculty status with the School of Graduate Studies (Currently in place).
2. Allied Health faculty participation in various research seminars offered by the Departments of basic sciences (Currently available).
3. Allied Health faculty seeking terminal degrees from the School of Graduate Studies (Currently available).
4. Sharing of intramural grants and other funding opportunities (2-5 years).
5. Having junior Allied Health faculty mentored by Graduate School faculty in research.
6. Having Graduate School faculty become involved with clinical research associated with Allied Health (2-5 years).
7. Matching of translational research interests between the two schools (2-5 years).

Cost:
Time commitment

Outcome Measures
1. Increased amounts of research monies and funding
2. Increased number of shared publications between both groups of faculty
3. Increased number of Allied Health faculty obtaining affiliate faculty status in the School of Graduate Studies
4. Increased number of Allied Health faculty seeking terminal degrees in basic sciences
Recommendation #28: There should be an individual on this campus to facilitate technology transfer and to act as a liaison with technology transfer at the LSU Systems level to ensure that the full capacity of the LSU System technology transfer resource be applied equally to LSUHSC-S. (1.84) F

Background/Rationale:
An increasing number of faculty at LSUHSC-S have engaged in the development of new technology and entrepreneurial research, in keeping with an increase in these activities throughout the research spectrum within the academia nation-wide. To facilitate faculty and university related issues regarding technology transfer, we need an in-house technology transfer specialist located on campus to coordinate the technology transfer activity and to act as a liaison with the technology transfer at the LSU System.

Implementation:
Appoint a technology transfer specialist to be located at the LSUHSC-S campus

Cost:
Funding of said individual will be borne by the LSU Systems Foundation

Time line:
Appointment of the specialist should be concurrent with the establishment of the LSU system-wide Foundation for Technology Transfer.

Impact:
An in-house specialist will facilitate the process of technology transfer on this campus by actively engaging the faculty and providing support in their efforts in pursuing research patents.

Progress measures:
Success is determined by the presence of the technology transfer specialist on the LSUHSC-S campus.
Recommendation #29: Educate and motivate faculty in economic development commitment and opportunity.

(1.85) F

Background and Rationale:
In general, the LSUHSC-S faculty are not entrepreneurs, and are behind in their attitude and thinking towards entrepreneurial research and science commercialization as compared to researchers at other institutions. Moreover, the traditional attitude of the LSUHSC-S administration has been lukewarm towards the ethics of entrepreneurial research and research enterprises. The challenge to faculty (and the administration) is to recognize that the traditional fundamental model for research that has served academia for years will not translate into success in the new economy. To be competitive as individuals and as an institution, we must think along non-traditional lines.

Implementation:
1. Educate faculty on research enterprises and built-in incentives to science commercialization through targeted seminars/workshops organized by the technology transfer specialist.
2. Encourage translational research (through NIH supported SBIR grants) and establishment of intellectual property. Faculty patenting of research discovery will be facilitated by the technology transfer specialist. (Recommendation #28)
3. Factor entrepreneurial creativity (i.e., patents) into the institutional tenure/promotion process.
4. Time release for faculty educational advancement to attend off-campus workshops on entrepreneurial opportunities and research commercialization.
5. Commit to recruiting outstanding faculty with productive and innovative research programs in both basic, translational, and applied research to build a critical mass within Research CENTERS (see CENTER Concept, Research Development Committee).

Cost:
Seminar costs, upfront costs for legal processing of patents, faculty recruitment costs

Time line:
Educating existing faculty can be accomplished within 2 years, with annual workshops for new faculty thereafter. Recruitment of outstanding new faculty should be both a short-term and long-term commitment.

Impact:
Enhance recognition of market value of faculty research and promote entrepreneurial creativity and technology transfer activities. Individual and institutional successes shall facilitate faculty recruitment efforts.

Progress measures:
Successes can be determined by the increased interest of LSUHSC-S faculty in entrepreneurial research activities, increased number of research patents, and recruitment of outstanding investigators to the institution.
Unresolved Recommendations from 1999 Research Retreat

#3. Departments and centers should be allowed broad latitude in rebudgeting salary savings that result from the award of a research grant.

#4. The standards used to determine research space allocation to individual faculty shall be uniformly applied to the BRI and the Medical School.

#5. (1) Increase funding, total volumes, monograph titles and number of journal subscriptions to the mean levels reported in the Annual Statistics of Medical School Libraries by FY2000. Provide for growth thereafter at rates needed to sustain the planned growth in research dollars. The administration should provide the funding and hold the library staff accountable for the achievement of these goals in a timely and cost effective manner. 
(2) Re-establish as the primary mission of the library its support of the medical mission of the school and establish mechanisms for the medical school staff to evaluate and have meaningful input and control over how that is accomplished.

#6f. Implement a department clinical research plan by providing release time and a return of overhead funds to investigators.

#11. An acceptable time-limit for research space assignment to non-productive faculty is 3-5 years, with mandatory review and counsel after 3 years.

#19. Department heads and the Dean should counsel unproductive, tenured faculty about career changes or retirement using financial incentives of mutual benefit.