

Promoting Clinician-Scientists at LSUHSC
Needs and Potential Solutions
August 16, 2004

I. BACKGROUND

Successful clinician-scientists are very rare at the LSU Health Sciences Center. This is largely a result of the lack of a culture for research in the clinical departments and the absence of adequate incentives to motivate clinicians to dedicate significant time to research. However, the potential for good clinical research at LSUHSC is tremendous, given the unique demographics of the patient population we serve, the wide range of pathologies and the growing excellence of basic research across various disciplines and schools at our institution.

There has also been an increasing need for training clinician-scientists in the United States, driven in part by the great pressure to translate the tremendous progress of basic science into novel therapies. This need has been strongly voiced by Congress to the leadership of the National Institutes of Health. Consequently, centers that have focused their work on basic and translational research have benefited from the funding provided by federal agencies.

In this document we outline a series of proposals aimed at addressing the shortage of clinical investigators at LSUHSC. These include a definition of the different types of clinicians who participate in research, developing an appropriate incentive plan for clinicians who successfully conduct research, and the development of mentorship programs that motivate faculty, students, residents, and fellows to pursue a career as clinician scientists. If successful, the proposed changes should help us retain and recruit successful clinician-scientists to LSU to establish, develop, and fund new lines of research with a translational focus that can address local and national health-care needs.

Categories of clinicians according to their research activities: The terms “clinician-scientist” and “clinical investigator” have been quite confusing, since the levels of interest and dedication to research vary among individual clinicians. Furthermore, the time and dedication needed to succeed in biomedical research at present are significantly more than they were only a few decades ago. In addition, given the diversity of the schools that form LSUHSC, clinicians can include professionals from the school of medicine, allied health, dentistry, nursing and public health. Therefore a clear definition of the categories of clinicians that do research is required. We believe that clinicians may be divided into three major categories, according to their interest and commitment to research:

Clinician-Scientist: This individual is mostly committed to conducting biomedical research that may range from very basic biomedical concepts to translational research. This individual generally leads and funds a research program. To succeed in their work and be able to compete for funding, these individuals have to dedicate the majority of their time (>60%) to research, with a smaller fraction dedicated to clinical work and teaching.

Clinical Investigator: This individual is highly interested in research, but is not interested in establishing and maintaining independent research setting or research program. This person generally has established a strong collaboration with one or more independent basic researchers or clinician-scientists who have their own research programs, and in some cases is an independent investigator in her/his own right. The clinical investigator typically will have a more active clinical practice, where s/he conducts clinical trials, collect samples for

research and most importantly, brings forth clinical observations that are of interest for research projects. This person generally dedicates <40% of their time to research.

Clinician: This individual's primary interest is to deliver excellent clinical care within the academic environment and to teach students, residents, and fellows. These individuals may help identify and enroll patients in various research projects or clinical trials or assist in data collection.

II. SUCCESSFULLY PROMOTING CLINICIAN SCIENTISTS AND INVESTIGATORS

A. Recruiting and Retaining Successful Clinician-Scientists and Clinical Investigators: Loss of successful clinician-scientists and clinical investigators is a major problem for any academic institution, because they are so few, and the cost of replacing them is very high. In addition, LSUHSC has not traditionally been competitive in attracting well established investigators. To resolve this problem, several issues should be addressed:

B. Salary Structure for the clinician-scientist: Our current salary structure is not conducive to the work of clinician-scientists. Clinicians at LSUHSC, irrespective of their commitment to or interest in research, are paid under a general salary structure made up of a base salary provided by LSUHSC and a supplement derived from their clinical practice. Traditionally, the base salary for clinicians has been low, since it was expected that they would be able to bring in significant amounts of monies from their clinical practice. This model does not provide the flexibility needed to address the compensation needs of these investigators. Clinician-scientists and clinical investigators spend the majority of their time establishing, conducting, and funding their research work. In addition, they are expected to carry the same load of clinical responsibilities as regular clinicians, to provide for their supplemental salaries. This results in having to spend an excessive amount of time seeing patients in several hospitals in town and in severely limiting the time dedicated to research. These excessive demands and frustrations make it very easy for other academic institutions to "court away" our successful clinician-scientists and clinical investigators. Several such examples have occurred at LSUHSC in the last few years.

Therefore, there is an urgent need to modify the current salary structure for the different categories of clinicians. Some proposed changes are:

To provide appropriate base salaries, supplements, and incentives for successful clinician-scientists: Clinician-scientists should have their salaries established at levels appropriate to their expertise and capability. LSUHSC should establish clear policies on the source and duration of a clinician's base salary at the time of their recruitment. LSUHSC should strive to establish a salary that is above the 50th percentile nationwide, to be able to attract successful clinician-scientists. Successful individuals should be allowed to place their whole base salary on their grants (Current NIH cap is approximately \$175,000/yr). Furthermore, these individuals could receive incentives as exemplified below:

- A research incentive compensation related to the base salary release of 20%.
- Return of 10% of the generated departmental indirect costs back to the clinician-scientist for use in their research efforts or as compensation.
- Department and/or school return of an amount equal to 10% of the clinician's clinical revenue supplement to the laboratory (or other research settings) for discretionary spending by the principal investigator.

This would not only be an attractive feature for recruitment of clinician-scientists but would also be an important incentive for junior faculty, fellows, residents, and students who are interested in research, but who may be doubtful of committing to it because of the limited economic rewards and the excessive time and effort needed.

Other: An additional issue that needs to be addressed to attract and retain successful investigators is the overall “Benefits Package” provided by LSUHSC to its employees. Included among these are the cost of health care and the retirement plans.

C. Protected Time for Research: Adequate allotment of time for the development of research. Research has traditionally been considered a “hobby” done by the clinician after he/she has completed clinical duties. This misrepresentation clearly should be changed in the clinical departments. The Department Chairman should be entrusted with giving enough time (at least 75%) for research to clinicians who have submitted proposals or obtained funding.

D. Grant Support Infrastructure: One of the major difficulties at LSUHSC is the absence of appropriate administrative structures that provide help and guidance to the investigator who is preparing a grant. This support is totally different from the Office of Grants Management in the institutional administration. Appropriate administrative personnel are sorely needed so the investigator can concentrate on writing the scientific proposal rather than completing administrative paperwork. A group of grant managers should be established and assigned to the most successful departments and/or centers. In addition, a clinical research support office should serve all of the clinical departments in this capacity.

E. Recognition: Support for and recognition of successful clinician-scientists and clinical investigators by the leadership at LSUHSC would provide an important incentive to new faculty members, residents, and students for considering research as a focal point of their career. This would also signal the commitment of the administration to the development of clinicians who do research. LSUHSC has been very successful in training clinicians for clinical practice and as such its publications recognize clinical advancements. However, the administration needs to demonstrate its changing view to its faculty and especially to its department chairpersons.

III. EMPHASIS ON TRANSLATIONAL PROGRAMS

Translational research is the focus of clinician-scientists, and ranges from the study of fundamental mechanisms of disease to the development of clinical trials. Over the last decade this concept has gained importance, as demonstrated by the suggestion by Congress to the National Institutes of Health that more emphasis be placed on translating basic research into the clinic.

At LSUHSC there is little integration among our basic researchers and clinicians. The concept of clinical research has been mostly represented by industry-promoted clinical trials, with few exceptions. Therefore, there is a need to emphasize the development of translational research from the “bench to the bedside.” This can be promoted using two approaches:

Identifying disciplines where translational research can be readily developed. These would include programs that already have been successfully established at LSUHSC, for example, Neuroscience, Cancer, and Alcohol Centers, and the Children’s Research Institute, etc.

Developing research in areas of high impact that represent unique characteristics of our patients' demographics and diseases. Examples include minority-related health issues and problems such as trauma. Both of these represent unique characteristics of our patient population and are for the most part untapped sources of funding for LSUHSC.

Developing translational research will not only serve to integrate basic and clinical investigators, but also to promote research within the ranks of the residents, fellows and professional graduate students.

IV. DEVELOPING THE NEXT GENERATION OF CLINICIAN-SCIENTISTS

Development of the next generation of clinician-researchers and clinical investigators should be started in parallel with the recruitment of a core of established clinician-researchers and investigators. Several strategies should be considered in this process:

Strengthening the combination of doctoral programs with basic science disciplines. Training of clinicians in a basic science discipline will help promote the clinical research endeavor at LSUHSC. Clear incentives should be developed for the students who make the choice of pursuing a MSc, PhD, MPH (or other professional graduate programs) in addition to their doctoral degree (M.D., DDS or other). This will be essential to counter the natural attraction of a more lucrative career in private practice.

Development of Clinical Research Fellowships: The long-term health of a development program for clinician-scientists and clinical investigators lies within the clinical residency, fellowship, and professional graduate programs. LSUHSC has provided good training for clinicians who will be dedicated to clinical practice, but not for those interested in academic research. Very few of the residency, fellowship, or professional graduate programs at LSU emphasize the research experience. Although some of these programs may express the need for the fellow to spend some time in research, few of them enforce this part of the program. This may be largely a result of a lack of qualified researchers among the departmental leadership who develop the training programs. Therefore a long-term approach is needed to include research as part of the education and training of residents and fellows in the different clinical disciplines. Initial steps in this direction include the participation of basic researchers in clinical departments and the establishment of translational research groups.

Mentorship of Junior Faculty: Mentoring junior faculty who have shown commitment to research will provide a new source of investigators, which is more accessible and less costly than hiring them from the outside. To promote this process, incentives for the establishment of mentor-mentee agreements between successful senior researchers and the most promising junior researchers should be established. Incentives could be in the form of initial funding for the first two years of collaborative work. There should be a review process of proposed work that is presented by both the mentee and the mentor (no more than 5 pages long) and that includes well defined benchmarks by which to measure the success of the collaboration. One of these benchmarks should be funding from outside sources obtained in 2-3 years. Successful mentor-mentee projects should be recognized by the Chancellor's office within LSUHSC. This should help initiate a "change of climate" in the clinical departments.

V. SUMMARY AND ACTION ITEMS SUGGESTED

LSUHSC has traditionally educated the physicians who serve the people of Louisiana. However, in light of the scientific advances in health care and of the development of stronger basic science

research at LSUHSC, there is a need to develop clinician-scientists who can help establish successful translational programs that can:

- Link the basic-science programs with the clinical arena.
- Establish novel therapeutic possibilities for the patients seen by LSU physicians.
- Develop novel areas of biomedical research.

To address this need, LSUHSC should develop approaches to attract and retain its existing successful clinician-scientists and to establish a program for promoting new clinician-scientists within our institution through mentorship of young faculty, residents, and fellows.

VI. ACTION ITEMS

1. Develop a plan for retention and promotion plan for successful clinician-scientists at LSUHSC that includes incentives, promotion and recognition based on performance.

Implementation: Chancellor and Deans

2. Establish compensation incentives for existing and new successful clinician-scientists at LSUHSC. This includes:

- a. Analyze and correct salary structure to promote recruitment and retention. Revise the base and supplement compensation as compare to the national and regional standards.
- b. Develop incentives for successful clinician-scientists to mentor junior faculty members, fellows, and residents.

Implementation: Chancellor and deans.

3. Establish a grants support office whose functions are:

- a. Actively seeks new funding opportunities and present them to investigators at LSUHSC.
- b. Help the investigators write their applications.

Implementation: Chancellor and Deans

4. Develop and promote translational research programs. Five or six areas of excellence should be selected as focus points for the development of translational research by clinician-scientists and clinical investigators. These areas will be chosen because they are presently well established at LSUHSC or because they have extraordinary potential due to the demographic and health characteristics of New Orleans. Among the existing new areas for development to choose from are:

- Neuroscience Center
- Cancer: Stanley S. Scott Cancer Center
- Children's Research Institute
- The Alcohol Center
- Cardiovascular Research Center
- The LSU Eye Center
- Center for Oral and Craniofacial Biology
- Trauma: Because New Orleans has one of the highest incidences of trauma.
- Research in Minority Populations: Our patient population is mostly composed of minorities. Research in these groups of individuals has become very important and a major source of untapped research resources.

Implementation: Chancellor and Deans.

5. Develop a mentor-mentee program: This will require a mentor and the mentee “contract” overseen by a mentoring committee to ensure that it is focused, well directed, well supported, and leads to the successful development of new investigators.

Implementation: Deans and Chairpersons

6. Establish a periodic evaluation of suggested actions. We suggest a biannual evaluation and report to the Chancellor and Deans.

Implementation: LSUHSC Research Council.