

## **A Strategic Plan to Enhance State, Private and Veterans Affairs Medical Center Biomedical Research In Idaho**

- I. Goals:
  - A. To increase collaboration between biomedical investigators from State of Idaho Institutions, the private sector, Mountain States Medical Research Institute and the Veterans Affairs Medical Center in Boise.
  - B. To increase graduate education in biomedical fields in Idaho.
  - C. To establish a critical mass of innovative, productive biomedical investigators at the Veterans Affairs Medical Center in Boise.
  
- II. Essential Integrative Elements:
  - A. To establish a new research and education building at the Boise Veterans Affairs Medical Center which together with existing research facilities will support the activities described below.
  - B. To provide research space for the following researchers:
    - 1. 2 principle investigators from each State of Idaho university: Boise State University, Idaho State University and the University of Idaho (total 6)
    - 2. 18 investigators supported by the Veterans Affairs Medical Center. Note currently there are already 13 Ph.Ds or M.Ds, involved in research activities at the Boise VAMC.
    - 3. 1 Principal Investigator to be selected by St. Lukes/Mountain States Medical Research Institute.
  - C. To provide educational space for existing programs with State of Idaho Institutions of Higher Learning as well as private institutions.
    - 1. Boise State University Nursing Program
    - 2. Boise State Respiratory Therapy Program
    - 3. Idaho State University School of Nursing
    - 4. Idaho State University School of Pharmacy
    - 5. Idaho State University Medical Residency Training Program
    - 6. Northwest Nazarene School of Nursing
    - 7. University of Idaho WWAMI Program
    - 8. University of Idaho Graduate Program in Microbiology, Molecular Biology and Biochemistry
  - D. To provide tele and video conferencing between BSU, ISU, U of I, U of Washington and VA Medical Center networks.
  
- III. Action Plan
  - A. New Research and Education Building. We have approval for a \$7 million dollar building under the auspices of the Department of Veterans Affairs Minor Construction Program. This was approved in February 2007 with preliminary funding for architectural design and planning in October 2008 (fiscal 2009) and construction in 2009-2010 (fiscal year 2010). There are three potential building sites on the grounds of the Boise VAMC. We have selected a site adjacent to our existing research space. This will be a two story building contiguous to existing space, with potential for upward expansion. There will be an additional \$700,000 available as initiation cost after completion of construction.
  
  - B. VAMC support for Investigators.

1. *Existing Investigators:* Currently the VA provides salary for 7 research investigators who are MDs. There are 6 PhDs who are supported by research funds from a variety of sources including Federal research grants, contracts from the private sector or philanthropic funding agencies.
2. *New Recruits:* We have just hired a new investigator in Pulmonary and Critical Care Medicine. We will soon recruit a new Infectious Disease Investigator and an MD with interest in data base analysis and outcomes research.
3. *Administrative Support:* We have one senior level administrative officer and one secretary who serve as liaisons with the Boise VAMC and the Department of Veterans Affairs in Washington, D.C.
4. *Animal Research Facility:* The VA provides the building and administrative personnel to handle the animals as well as an active Animal Subjects Research Committee.
5. *Potential Research Investigators:* Currently the VA provides salary support for 25 MDs, 10 physician assistants and 4 nurse practitioners who could be involved in research activities and mentoring of young investigators.
6. *Clinical Investigations:* The VAMC provides 3 rooms designated for clinical investigations in patients. Currently, there are two Master's level Registered Nurses who are full time research coordinators. Several projects are currently active including new treatments for Hepatitis C, pneumonia, and skin and soft tissue infections.

C. Potential State of Idaho Support for the Biomedical Research Center

1. *Funding for 6 PhD Research Investigators.* Salaries and initial start up funds for 6 investigators are requested. Two researchers each from Idaho State University, University of Idaho and Boise State University would be recruited by the respective universities with some input from Research and Development at the Boise VAMC. It is critically important to facilitate collaboration between the Boise VAMC and the universities of the State of Idaho. This will ensure no favoritism exists. It is clear that the state supported institutions and the Boise VAMC have strong researchers in some departments. It is a fact that in Idaho we must compete with much larger, established research centers for federal grants. This proposal would increase the likelihood that investigators can be more competitive by sharing resources, and ideas. It is crucial to establishing a strong center that can participate in existing graduate programs at the respective institutions. Further, it would be desirable to establish unique graduate programs leading to the PhDs in biomedical fields. Between the State of Idaho supported investigators and the VAMC faculty (both research and clinical), there will be an impressive cadre of professionals that could satisfy the State Board of Education requirements for novel graduate programs. In short there could be a graduate degree awarded under the auspices of the combined and integrated universities of Idaho. While this is perhaps a new concept, it would be successful since it would benefit all the universities, the Boise VAMC and the State of Idaho. The mechanism whereby such a graduate degree could be accomplished and administered is beyond the scope of this proposal. It is time for research facilities within the state to work together. State of Idaho funding could be through a variety of sources which would ultimately be worked out between the Governor's office, the State Board of Education and the Legislature.
2. *Stipends, Tuition and Health Care Costs for 6 Graduate Students per Year:* Graduate students are a critical element in any research center. The research center

proposed and the existing and new faculty and integrated graduate program would provide an exciting opportunity for students seeking a research career. These costs are relatively low, but the work performed greatly enhances the research capability of the principle investigator. In the past, Dr. Stevens has provided research opportunities for graduate students at the Boise VA by collaborating with the University of Idaho's Department of Microbiology, Molecular Biology and Biochemistry and Idaho State University's Biology Department. This has resulted in 4 graduate degrees through the University of Idaho, one current graduate student at the University of Idaho, 1 graduate degree through Idaho State University and one current graduate student through Idaho State University. In all cases the research was done at the Boise VAMC, the course work done at the respective university and the graduate student support was and is currently funded by Dr. Stevens.

3. *Stipends for 3 Post-doctoral Fellowships:* Post-doctoral candidates are those who have recently obtained a Doctoral degree in Biomedical Science and therefore bring established skills to the research laboratory. However, it is generally agreed that completion of a Doctoral program in Biomedical Science is necessary, but not sufficient, to guarantee success in obtaining independent funding especially in the competitive environment that exists today. Thus, one additional year of support provides additional research experience while developing grant writing skills and generating preliminary data for their own independent research career. It is at this point that candidates become eligible for Career Development Awards through the VA as well as NIH.

4. *State Supported Salary for a Secretary/Education Coordinator/Grant Writer:* This unique position would facilitate the coordinated educational activities for faculty and students from ISU, BSU and the U of I, such as scheduling of students activities, coordinating classroom space, teleconferencing and providing general secretarial support for faculty. Currently educational programs exist in nursing (ISU, BSU), medical residency training program (ISU), respiratory therapy (BSU), social work (BSU and ISU), pharmacy (ISU), WWAMI (U of I) and graduate programs in Microbiology (U of I and ISU). It would be desirable to hire someone sufficiently qualified to assist in preparation of manuscripts and grants as well.

#### IV. Federal Support

- A. New building, \$7 million dollars
- B. Existing research basic science labs (value unspecified)
- C. Administrative support (\$200,000/year)
- D. Research Faculty (7 MDs and 6 PhDs), total \$1,800,000
- E. Heat, lights, telephones, security, equipment
- F. Animal Research Facility
- G. Research Associates/Research Technicians (\$500,000)

#### V. Proposed State Support

- A. Six new faculty (salary), \$540,000/year
- B. Six graduate student stipends, \$180,000/year
- C. Three Post-doctoral students/year, \$180,000/year
- D. Secretary/educational coordinator/grant writer, \$75,000/year

## VI. Business Plan and Economic Impact:

### A. Research Grant Strategies:

1. *Federal Research Grants:* Sustainability of cutting edge research is dependent upon a portfolio of funding support from diverse granting agencies. This includes the National Institutes of Health, Department of Veterans Affairs, and the Department of Defense. Administration of NIH grants through the various universities will allow capture of overhead costs which come back to the Department of Grants and Contracts at the respective Universities. The Biomedical Research Institute at the Boise VAMC will negotiate with these respective universities to obtain some of the indirect costs to support research activities. Recruitment, promotion, and retention of faculty will be dependent upon their productivity in terms of securing federally funded research. In the last 12 months, we have been successful in obtaining three research grants through the nationally complete Department of Veterans Affairs Merit Review Grant system. We currently have one other VA grant submitted and two NIH grants pending.

2. *Philanthropic Research Foundations:* The American Heart Association, Diabetes Association, The Wellcome Trust, Howard Hughes Institute, the Gates Foundation and the Murdock Charitable Trust to mention a few, all support biomedical research. Currently one grant has been submitted to the National Autism Foundation, one to the American Heart Association and one to the Murdock Charitable Trust.

3. *Corporations:* American pharmaceutical companies have largely downsized their research operations despite the fact that they have grown to be huge, multinational conglomerates. Our plan is to obtain funding from them in two important areas as described below:

a) Clinical trials. Currently we have collaborated with industry to perform clinical trials in patients with Hepatitis C, pneumonia and skin and soft tissue infections. Corporations involved include Roche and Pfizer. This generates significant money which can be used for other research activities. As stated previously, we have an existing Clinical Investigation Unit where these trials can be performed. Our plan is to greatly expand these investigations and to involve existing physician faculty at the Boise VAMC who are not now involved in research.

b) Investigator initiated research grants. We have been very successful in obtaining research grants from pharmaceutical companies to study different aspects of their patented products. We currently have four projects that have been funded by industry totalling \$300,000 per year. The corporations involved are Pfizer, Arpida, Cubist and Ortho-McNeil.

c) Collaborations to develop and test new therapeutic agents. Investigators from the Boise VAMC have collaborated with Gem Pharmaceutical to develop novel new treatments for breast cancer. This association has existed for nearly 10 years. Their support has come in the form of research grants and salary support.

### B. Economic Impact

Establishing a critical mass of investigators in one location will open several doors of opportunity. First, we can apply for Program Projects through the VA or NIH which

require 4-5 investigators in similar areas of research. These can be large grants in the order of 3-4 million dollars per year for 3-5 years. Second, we could be eligible to apply for a State of Idaho Center of Excellence grant which provides \$300,000 per year for two years. In addition, there are NIH funded grants for Epscor states such as Idaho that are designed to fund investigators to prepare them to be nationally competitive. A proposal that combines faculty from multiple institutions within the State of Idaho would be looked upon favorably.

In summary, through the combined efforts of Idaho's major academic institutions and the Veterans Affairs Medical Center, the possibility exists for capturing multi-millions of state, federal and private research dollars – the overheads from which will significantly improve the biomedical research infrastructure in the state and which would in turn improve opportunities for Idaho scientists, provide state-of-art training for Idaho students and facilitate recruitment of other bright, innovative young scientists into the state. Novel, patentable new prevention and treatment strategies resulting from this initiative would yield significant, long-term economic benefits to the great State of Idaho and would form a solid foundation from which to position Idaho as a nationally-recognized leader in Biomedical Research.

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