

**REPORT OF THE  
HEALTH SCIENCES AND HUMAN SERVICES  
PLANNING CLUSTER**

**SUBMITTED TO**

**LOIS MUIR  
PROVOST AND VICE PRESIDENT FOR ACADEMIC AFFAIRS  
THE UNIVERSITY OF MONTANA**

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**HEALTH SCIENCE AND HUMAN SERVICES  
PLANNING CLUSTER  
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**HEALTH SCIENCES AND HUMAN SERVICES  
PLANNING CLUSTER  
SUMMARY**

**Create an inventory of educational and research opportunities available within the thematic area of Health Sciences and Human Services**

- Develop a readily accessible web-based summary of these opportunities targeted toward enrolled students and student recruitment

**Enhance programmatic strength in the niche area of Public Health**

- Initiate a new Master in Public Health (MPH) program

**Enhance programmatic strength in the niche area of Basic Biomedical Sciences**

- Initiate a new Ph.D. program in Biological Chemistry, Molecular Biology and Biophysics
- Explore the development of “core” graduate course(s) in the biomedical sciences
- Enhance the organization and presentation of undergraduate research opportunities within the biomedical sciences
- Explore the development of training and research programs in Bioinformatics

**Enhance programmatic strength in the niche area of Gerontology**

- Build University-wide capacity in the field of gerontology/geriatrics
- Strengthen gerontology education at the baccalaureate level
- Strengthen gerontology education at the graduate and doctoral levels
- Support University efforts to garner federal funding for education- and research-related programs in gerontology
- Assume statewide and regional leadership in gerontology-related education through partnerships / collaborations among various campus units

**HEALTH SCIENCES AND HUMAN SERVICES**  
**PLANNING CLUSTER**  
***PLANNING STRATEGY***

**1. As a first step in preparing inventories, draft summaries were prepared describing the components of the participating units that were related to a general focus in *Health Sciences and Human Services*.**

These units included:

- Biological Sciences
- Ctr. Environmental Hlth Sci.
- MT Neuroscience Institute
- Physical Therapy
- Social Work
- COBRE Neuroscience
- Health & Human Performance
- Pharmaceutical Sciences
- Psychology
- Sociology
- College of Technology
- Int. Heart Institute
- Pharmacy Practice
- Rural Institute

*Copies of the summaries are included in the appendix*

**2. Key multidisciplinary themes were identified that linked programs and interests among these units that were related to a general focus in *Health Sciences and Human Services*.**

These themes included:

- Basic Biomedical Science
- Environmental Health
- Disabilities
- Gerontology
- Native American Health
- Preventative Care and Health
- Public Health
- Rural Health

**3. Based upon potential and impact, three of these multidisciplinary themes were then selected and recommendation / goals were identified for their further development.**

These goals included

- Enhance programmatic strength in the niche area of Public Health
- Enhance programmatic strength in the niche area of Basic Biomedical Sciences
- Enhance programmatic strength in the niche area of Gerontology

*Overviews and Rationale and Resource Analyses for these three themes follow:*

**ENHANCE PROGRAMMATIC STRENGTH IN THE NICHE AREA OF PUBLIC HEALTH**  
**OVERVIEW**

**1. Initiate a new Master in Public Health (MPH) program**

***Why?***

- Nearest institution offering the MPH degree is the School of Public Health at The University of Washington (UW) in Seattle.
- UM faculty have received numerous queries from healthcare practitioners across the state regarding UM's plans to offer the MPH degree.
- Faculty affiliated with UW's School of Public Health have expressed interest in working with Montanans to provide educational programs in Public Health.

***How?***

- Council which accredits MPH programs ([www.CEPH.org](http://www.CEPH.org)) recently met with UM's Department of Health and Human Performance (HHP) to explore UM offering an accredited MPH degree in Community Health Education.
- Model initial offering of MPH degree after WWAMI medical education program.
- UM at first would function as satellite of the UW MPH program.
  - As UM gained experience, could offer fully-accredited MPH program without the continued assistance of UW.
- UM has the interdisciplinary expertise to offer MPH core courses:
  - Community Health Education (HHP)
  - Environmental Health Sciences and Public Health Research (UM Center for Environmental Health Sciences)
  - Health Services Administration (Management, Political Science and possibly Pharmacy Practice)
  - Social and Behavioral Sciences (Social Work, Sociology)
  - Health Related Behavior (Psychology)
  - Educational Processes, and Educational Program Planning Implementation and Evaluation (School of Education)
  - Global Health Issues (Political Science)
  - Law & Policy (School of Law)
- Additional necessary expertise which UM currently lacks (but may be available through MSU-Bozeman):
  - Biostatistics
  - Epidemiology
  - Public Health Research (additional expertise)

**ENHANCE PROGRAMMATIC STRENGTH IN THE NICHE AREA OF PUBLIC HEALTH**  
***RATIONALE AND RESOURCE ANALYSIS***

1. The University of Montana would be well-served in exploring the possibility of offering a Master of Public Health (MPH) degree. This document is the result of a May 1, 2002 meeting and subsequent discussions by the committee members listed at the end. Additional input was obtained at the May 15, 2002 meeting of the Provost's Health Sciences and Human Services Planning Cluster.

**Rationale:** The nearest institution offering the MPH degree is the School of Public Health at The University of Washington (UW) in Seattle. UM faculty have received numerous queries from healthcare practitioners across the state regarding UM's plans to offer the MPH degree. It is also known that faculty affiliated with UW's School of Public Health have expressed interest in working with Montanans to provide educational programs in Public Health. In fact, faculty from UW's Northwest Center for Public Health Practice already offer – through a collaboration with the Montana Department of Health and Human Services' [MTDPHHS] Public Health Training Institute – public health seminars to Montana healthcare professionals. Additionally, UW's School of Public Health offers an Extended MPH Degree Program, a partial distance-learning, partial on-site program for professionals in or connected to public health, leading to the MPH degree. The curricula concentration is in health services management. Pathways are also available in community practice, health education, maternal and child health (MCH) and oral health. This Extended MPH Degree Program has been completed by Montana residents.

**Resource analysis:** The University of Montana's Department of Health and Human Performance (HHP) has a strong interest in developing a graduate level curriculum which would lead to an MPH degree. In fact, the HHP department recently hosted consultants from the Council responsible for accrediting MPH programs who assisted HHP faculty in assessing the feasibility for UM to offer an accredited MPH degree in Community Health Education. Council accreditation requirements for the various options can be viewed at [www.CEPH.org](http://www.CEPH.org). UM already has among its faculty the interdisciplinary expertise necessary to offer courses in MPH core areas of Community Health Education (HHP); Environmental Health Sciences (UM Center for Environmental Health Sciences; Health Services Administration (Management, Political Science and possibly Pharmacy Practice); Social and Behavioral Sciences (Sociology); Health Related Behavior (Psychology); Educational Processes, and Educational Program Planning, Implementation and Evaluation (School of Education); Public Health Research (Center for Environmental Health Sciences); Global Health Issues (Political Science); Law & Policy (School of Law).

UM HHP faculty work closely with the state and county public health departments addressing HIV prevention in rural and frontier states like Montana. In addition, several UM departments offer courses in Development Studies that include public-health components. UM faculty participate in initiatives which address global public health concerns, such as the impact of global pollution on the health of the world's peoples. UM's Rural Institute on Disabilities focuses to a great extent on Rural Health, including public health issues as these pertain to rural Montanans who have disabilities. Faculty in other units across campus also have varying degrees of interest in Rural Health issues.

Additional necessary expertise which UM currently lacks include the areas of Biostatistics, Epidemiology and additional expertise in Public Health Research. MSU-Bozeman does have these areas available, along with WWAMI, Nursing, AHEC, and Health and Human Development.

**Recommendation:** It is recommended that The University of Montana explore the possibility of partnering with The University of Washington's School of Public Health and UW's Northwest Center for Public Health Practice, and possibly with Montana State University-Bozeman to develop a graduate-level curriculum leading to a Master of Public Health degree. From a state-wide workforce perspective, the combination of UM, MSU-Bozeman, and UW to begin with, spinning off (hopefully) to a UM/MSU SPH eventually would probably best serve Montana's needs.

One model for the initial offering of such a degree might be based on the already established and successful WWAMI medical education program. The University of Montana would function – for at least the first few years – as a satellite of the UW MPH program. After the satellite program had matured, UM could consider offering a fully-accredited MPH program without the continued assistance of UW. Such a collaboration could quickly provide UM with the Public Health expertise and infrastructure it currently lacks. In return, UW Public Health faculty, graduate students and researchers would gain access to “real life” Public Health laboratories including Libby, Milltown Dam Reservoir, Superior, and Walkerville, along with the unique public health practice experiences in Montana's rural and frontier communities.

In addition to the numerous possibilities for collaboration by UM and UW faculty on public health challenges noted above, UW has a national reputation in the area of Rural Health, bolstered in part by UW's counterpart to the UM Rural Institute. UW is also a growing presence in the International Public Health arena. UW's expertise in these fields complements the interest areas of UM faculty noted above. A potential UM "niche" would be an integration of rural health and global-local health. The global-local health nexus will continue to grow in importance in an increasingly interdependent world. UM and UW are poised to play a lead role in this vital dimension of public health via faculty participation in the Fulbright New Century Scholars program and its global-health curriculum, professional association, training, research, and consulting spin-offs.

Other possible Montana-based collaborators in this MPH initiative include Tribal Health Authorities (a few Tribal Health officials have already obtained their MPH degrees from out-of-state institutions), Tribal Colleges, and the Montana Office of Public Health System Improvement.

#### **Issues Requiring Further Exploration:**

- How strong will The University of Washington's interest be in having the UM MPH degree as a satellite program of UW's School of Public Health with the knowledge that UM seeks to offer its MPH degree independent of UW at some point in the future?
- How easy will it be for UM to split its MPH degree off from UW, and how will this split affect the accreditation status of UM's MPH degree?
- Should UM and Montana State University offer a joint MPH degree, who will confer the degree?

**ENHANCE PROGRAMMATIC STRENGTH IN THE NICHE AREA OF  
BASIC BIOMEDICAL SCIENCES  
OVERVIEW**

***1. Initiate a new Ph.D. program in Biological Chemistry, Molecular Biology and Biophysics***

- A critical field within the basic sciences that is a necessary piece of any effort to enhance overall strengths biomedical sciences
- Recent faculty recruitment has created a good start at establishing critical mass in this field, although additional faculty would be needed
- Multidisciplinary by design, it would include faculty from the Division of Biological Sciences, the Department of Chemistry and the Department of Pharmaceutical Sciences
- A strong emphasis would be placed on structural and functional studies of macromolecules, such as proteins and nucleic acids
- The program would include many of the concepts originally conceived of within the “Biological Chemistry and Molecular Biosciences” plan developed by faculty in DBS and Chemistry.
- Although distinct, the program would complement the research and training opportunities currently present in the Microbiology/Biochemistry graduate program.
- Key faculty currently carrying out research in this field would include (but not be limited to) S. Lodmell, M. McGuihl, S. Samuels, M. Grimes, S. Ross, J. Gerdes, N. Priestley, K. Sugden, R. Bridges, C, Thompson, M, Kavanaugh

***2. Explore the development of “core” graduate course(s) in the biomedical sciences***

- Course(s) would meet common needs within existing (Biochemistry / Microbiology, Pharmaceutical Sciences, Chemistry) and emerging graduate programs (Toxicology, Neuroscience, and Biological Chemistry, Molecular and Biophysics).
- Allow sharing of resources and expertise
- Fit within the multidisciplinary focus central to these new Ph.D. program
- Provide flexibility in graduate training, which will also benefit recruitment

***3. Enhance the organization and presentation of undergraduate research opportunities within the biomedical Sciences***

- Centralized, web-based presentation of research opportunities
- Coordination of programs to enhance resource sharing and funding opportunities

***4. Explore the development of training and research programs in Bioinformatics***

- Focused discussions among interested units, including (but not limited to) Division of Biological Sciences, Pharmaceutical Sciences, Chemistry, Mathematics, Computer Sciences
- Coordinated recruitments of multidisciplinary faculty

**ENHANCE PROGRAMMATIC STRENGTH IN THE NICHE AREA OF  
BASIC BIOMEDICAL SCIENCES  
RATIONALE AND RESOURCE ANALYSIS**

1. Given that The University of Montana does not have a medical school, the ability to build research and training programs in the biomedical sciences is closely tied to the strength of its basic science programs, particularly those which can house faculty pursuing research in areas that fall within the health sciences, e.g. chemistry, biochemistry, microbiology, pharmaceutical sciences, etc. One such basic science “cornerstone” that is critically needed on this campus as part a foundation upon which to further develop biomedical sciences is a program that focuses specifically on the structure and function of macromolecules (e.g., proteins and nucleic acids). Typically categorized under the rubric of *Biological Chemistry / Molecular Biology / Biophysics*, research and training in this field meshes quite well with the scholarly and curricular missions of non-medical school science programs, yet can house faculty whose research efforts are central to understanding and treating disease processes. Indeed, the fact that macromolecular structure and functional is central to both the basic and biomedical sciences is readily illustrated by the fact that it is a theme of both the NSF-funded EPSCoR and NIH-funded COBRE programs. Further, the need and interest to develop such a program emerged more than a year ago from a group of faculty from Division of Biological Sciences, the Department of Chemistry, and the Department of Pharmaceutical Sciences under a plan entitled Biological Chemistry and Molecular Biosciences. Advantageously, since that time a number of faculty, in addition to those already in place, have been recruited into these departments whose background and interests fall within the multidisciplinary field of *Biological Chemistry / Molecular Biology / Biophysics*. Faculty now in place that would play a key role in the development of this multi-disciplinary graduate program include: S. Lodmell (*DBS*), M. McGuirl (*DBS*), S. Samuels (*DBS*), M. Grimes (*DBS*), S. Ross (*Chem*), J. Gerdes (*Chem*), N. Priestley (*Chem*), K. Sugden (*Chem*), R. Bridges (*Pharm*), C. Thompson (*Pharm*), and M. Kavanaugh (*Pharm*). While this is an excellent start at generating a critical mass for this new program, additional faculty would unquestionably be needed, as would some new programmatic support. In summary, it is recommended that the need, significance and timing of such a program is excellent and that a plan to implement a new Ph.D. program in *Biological Chemistry / Molecular Biology / Biophysics* be initiated as soon as possible.

2. The ability of the campus to enhance its overall efforts and strengths in biomedical sciences has been (and will continue to be )increased with the addition of new graduate programs that overlap with respect to their applicability to the health sciences (e.g., Toxicology, Neuroscience, Biological Chemistry, Molecular Biology, and Biophysics). The development of shared "core courses" in the basic sciences that link new, as well as existing, programs represents a strategy that could: *i*) allow more efficient use of resources and expertise, *i*) enhance the multi-disciplinary nature of the graduate programs, and *iii*) be potentially used as a recruiting tool to attract competitive graduate students. It appears as if planning for such a core curriculum has begun as part of the planning process for the new graduate programs in Toxicology and Neuroscience. It is recommended that opportunities to expand the utility (and participation) to other graduate programs be explored.

3. An advantageous outcome of the growth that The University of Montana has seen in the number of faculty participating in biomedical research is an increase in laboratory research training opportunities for undergraduate students. The learning environment provided in the laboratory offers excellent training in areas that are sometimes difficult to address in a lecture-based setting, such as: hands-on technical experience, experiment design and data analysis, and team-based problem solving. While there are a number of programs on campus to increase the quality and quantity of such experiential opportunities, the campus would likely benefit from a more organized and coordinate presentation of the faculty and laboratories interested in training undergraduates. This is particularly true in the biomedical science, where faculty numbers have increased significantly in the last several months. It appears that considerable progress could be made in this area by just increasing the level of communication between the existing programs and faculty interested in fostering these opportunities. It has also been suggested that the Davidson Honors College might represent an excellent clearing house through which to organize these efforts. It is recommended that increasing undergraduate experiential training in the campus's growing number of biomedical laboratories is a priority in the overall success of the programs and should be enhanced through a more coordinated presentation of research opportunities and faculty interests.

4. Recent advances in areas of genomics and proteomics have essentially revolutionized many aspects of biomedical research. These advances, however, have also been accompanied by entirely new challenges as to how to handle the incredible volumes of data that can be generated using these new approaches. Almost overnight, the field of Bioinformatics has emerged as an interdisciplinary and computationally-based field of biomedical research designed to analyze and interpret these large data bases. One need only scan a recent edition of *Science* magazine to develop an appreciation for how fast these Bioinformatics programs are developing and how high the demand is for faculty with training in this field. There is no question that The University of Montana will have to more formally develop Bioinformatics in the very near future if both its research and curricular efforts in biology, biochemistry, pharmacy, chemistry, mathematics and computer sciences are to remain competitive. It is ironic, however, that while the multidisciplinary approaches of the faculty in this field have the potential to positively impact campus-wide programs, their recruitment is often hampered by the fact that their expertise and interests are, indeed, multidisciplinary by nature, and consequently require coordinated efforts between disparate academic units to develop, fill and maintain these positions. Given the high demand for such candidates and the need to move quickly should opportunities arise, it is recommended that cross-departmental planning begun as soon as possible to identify and overcome obstacles that might limit our ability to recruit the faculty that will be required to meet emerging needs in Bioinformatics.

**ENHANCE PROGRAMMATIC STRENGTH IN THE NICHE AREA OF GERONTOLOGY**  
*OVERVIEW*

- 1. Build University-wide capacity in the field of gerontology/geriatrics*
- 2. Strengthen gerontology education at the baccalaureate level*
- 3. Strengthen gerontology education at the graduate and doctoral levels*
- 4. Support University efforts (currently supported financially by the School of Pharmacy and Allied Health Sciences) to garner federal funding for education and research related programs.*
- 5. Assume statewide and regional leadership through seminars / lecture series on aging, considering partnerships / collaborations with such entities as the Practical Ethics Center and the Institute for Medicine and Humanities.*

**Enhance Programmatic Strength in the Niche Area of Gerontology**  
***RATIONALE AND RESOURCE ANALYSIS***

The University of Montana recognizes the rapidly shifting demographic scene in regard to the growth of the elderly population in Montana, nationally, and globally. In response to this trend, the university is in a position to explore ways in which this trend can be addressed, offering education and training for emerging careers, serving as the focal point for gerontological and geriatric research, and engaging involved stakeholders in a discourse about aging from not only a health and human services perspective, but also from political, theoretical, philosophical and ethical perspectives. The university is encouraged to assume leadership in the area of research, faculty development, campus-community dialogues, course/degree development from the associate level through the doctoral level, and in continuing education.

Any initiatives taken on by the university should be guided by the following perspectives:

- The process of aging needs to be viewed from both a geriatric (health/ physiological) and gerontological (psycho/social/ecological) perspective.
- Programs and course offerings need to be developed that address not only the issues/needs of Montana elders, but also that pay attention to regional, national, and global “graying” issues.
- Planning and implementation of any programs need to be based on strong needs assessments to determine need, identify community-campus resources, develop strategic plans, and address research/practice issues effectively.
- The planning process needs to proceed in collaboration with organizations, agencies, and other educational institutions with a focus on aging that are already engaged in research, practice, and social policy development in regard to aging.

**RECOMMENDATIONS AND SUGGESTIONS**

***Prepared in consultation with:***

Aging and Intergenerational Issues Cluster members  
Janet Finn, Department of Social Work  
Ann Williams, Department of Physical Therapy  
University of Montana Gerontology Education Committee members  
(to be changed to the Institute for Gerontology Education)

The Health Sciences and Human Services cluster, in coordination with the Aging and Generational Issues cluster, recommends the following:

***1. Build University-wide capacity in the field of gerontology/geriatrics***

- Faculty development in gerontology / geriatrics needs to be enhanced in order to prepare faculty for teaching and research in the field.
- The Institute for Gerontology Education (formerly the UM Geriatric Education Committee) needs to be supported administratively and financially as the focal point of university wide academic planning in gerontology / geriatrics.

***2. Strengthen gerontology education at the baccalaureate level***

- Support the Human and Family Development Minor (emphasis in Gerontology) through an allocation of faculty time.
- Support the development of a Gerontology Certificate at the associate and baccalaureate levels.

***3. Strengthen gerontology education at the graduate and doctoral levels***

- Explore the development of a Gerontology Certificate at the graduate level.
- Explore the possibility of an interdisciplinary PhD in gerontology.

***4. Support University efforts (currently supported financially by the School of Pharmacy and Allied Health Sciences) to garner federal funding for education and research related programs.***

- Provide funding for grant seeking efforts to establish a Geriatric Education Center at the University of Montana in collaboration with Montana State University School of Nursing and Rocky Mountain College Physician Assistant Program (if the UM grant is not funded in July 2002 and needs to be resubmitted. This center would spearhead the following initiatives:
  - Faculty training in gerontology / geriatrics
  - Traineeships and continuing education for gerontological professionals
  - Development of interdisciplinary training/clinical sites for students in gerontology
  - Development of a virtual resource center on aging to be housed at The University of Montana
- Provide funding for the writing of research grants in the field of gerontology.

***5. Assume statewide and regional leadership through seminars / lecture series on aging, considering partnerships / collaborations with such entities as the Practical Ethics Center and the Institute for Medicine and Humanities.***

## APPENDIX

**Draft summaries of inventories describing the components of the participating units as related to a general focus in *Health Sciences and Human Services***

- Biological Sciences
- COBRE Neuroscience
- College of Technology
- Ctr. Environmental Hlth Sci.
- Health & Human Performance
- Int. Heart Institute
- MT Neuroscience Institute
- Pharmaceutical Sciences
- Pharmacy Practice
- Physical Therapy
- Psychology
- Rural Institute
- Social Work
- Sociology