

**PROPOSAL TO THE WSU FACULTY SENATE
FOR THE FORMATION OF A COLLEGE OF MEDICAL SCIENCES
10/25/2013**

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1. GOALS

1. To meet Washington's growing demand for new physicians, particularly in underserved regions of the state
2. To partner with other colleges at WSU in becoming a world-class center of excellence in applied and translational biomedical research and health care delivery
3. To train a workforce of innovative and entrepreneurially-minded biomedical scientists dedicated to promoting economic growth in Eastern Washington
4. To further bolster WSU's prestige on the national stage

2. WHY A NEW COLLEGE IS NEEDED

A Home for Orphaned Departments and Programs in Spokane

Eighteen WSU faculty members currently teach in the WWAMI medical education program in Spokane and this number continues to increase. Yet this group does not belong to a unified university appointing unit, and as a consequence this faculty is not properly organized within the university. The Department of Speech and Hearing Science (SHS) in Spokane also lacks a college within which to grow. Both WWAMI and SHS share a mission of educating clinicians and clinician scientists. Consequently, it makes sense to combine these units in a new college. The Department of Speech and Hearing already offers BA and MA degrees, while the new college would also be able to offer medically-oriented professional and graduate programs that complement those offered by existing colleges (see below).

Growth in Medical Education

The Northwest states need more medical students to address the growing shortage of physicians in our region, especially in rural communities. Currently, a single allopathic medical school bears the entire burden of training MDs to serve the 10.6 million residents of the states of Washington, Wyoming, Alaska, Montana, and Idaho. This ratio of medical schools per capita pales in comparison to the national average, which is four times greater, and relegates our five-state region to rank last when compared to the other 45 states.

Furthermore, for the state of Washington alone, the medical school class size of 140 yields only 2.1 new MDs per 100,000 residents per year, as compared to the national average of 6.4 (calculated from the total enrollment tables published in 2012 by the American Association of Medical Colleges, AAMC – see Appendix B). These figures portend a crisis in healthcare accessibility in Washington, as population growth outpaces production of new doctors, especially among the elderly who are in greatest need. To raise Washington's MD production to the national average would require raising the production rate more than three-fold by enrolling an additional 289 students per class, for a total of 429. A thorough gap analysis of physician supply and demand in Washington can be found in the 2009 Expansion Committee Report (Appendix C). The State of Washington is overdue for a

significant growth in medical education, and with a growing presence in all fields of health care WSU is uniquely positioned to meet this need.

Research Center

The College of Medical Sciences (CMS) will further enhance the Health Sciences Campus' position as a coordinating hub for medical research in Eastern Washington. This well-defined, cohesive unit will pursue breakthrough advances in human health in partnership with other WSU colleges, such as the Colleges of Pharmacy and of Nursing in Spokane, and the Colleges of Veterinary Medicine and of Arts and Sciences in Pullman. The College of Medical Sciences will also partner with affiliated hospitals and with an anticipated growing private-sector biomedical research and development industry in Spokane and the region. The College of Medical Sciences will also provide collaborative research opportunities for faculty researchers on the Pullman campus who are seeking to undertake translational work and/or clinical studies.

WSU's Prestige on the National Stage

The College of Medical Sciences will fill a gap in WSU's educational portfolio, will represent an important step in the evolution of the Health Sciences campus in Spokane, which already hosts the outstanding Colleges of Pharmacy and of Nursing, and will further enhance WSU's prestige on the national stage.

- CMS will position WSU to have the option of transitioning to an independent, fully-accredited college of medicine in the future.
- For the foreseeable future, CMS will continue to grow the WWAMI medical education program in collaboration with the University of Washington.
- The development of this college will be an accelerator for the growth of the WSU-Spokane campus into a comprehensive, world-class center for health care education and research.

Economic Development

With five state-of-the-art hospitals, Spokane is the largest health care center between Seattle and Minneapolis. And the quality of care delivered in Spokane compares favorably with that of any major city in the nation. Many of the local physicians are deeply engaged in clinical research through sponsored clinical trials for the evaluation of new therapies. The addition of a local College of Medical Sciences that excels at pre-clinical research will enhance Eastern Washington's standing as an integrated research environment that is attractive to biomedical and pharmaceutical companies. Medical schools and teaching hospitals have tremendous economic impact, employing one in every forty eight wage earners in the United States according to a recent economic impact report by the AAMC (www.aamc.org/download/325654/data/12-113trippumbach2012final.pdf). Medical research campuses around the nation are also famous for boosting the local economy by serving as incubators for startup companies and by attracting external R&D investment.

3. BENEFITS OF CURRENT MEDICAL EDUCATION AT WSU

WSU already has an outstanding history of excellence in medical education. First-year medical students have been educated on the Pullman campus since 1971, and on the Spokane campus since 2008. To date, over 800 practicing physicians can take pride in having launched their medical careers at WSU.

Although WSU has only been teaching medical students in their first year of study, medical education has been highly profitable for the university; and it will be even more so in the future. Historically, each step in the development of medical education at WSU has been funded with new appropriations from the legislature, rather than through a reallocation of resources within WSU. The legislature is thereby growing and extending its investment in higher education at WSU in the area of medical education and health sciences. In the last five years, medical education by itself (excluding extramural grants) has generated revenues of about \$18.8 M for WSU.

**Cumulative Revenues for Medical Education
in the Last Five Years (2008-2012)**

Category	\$ Million
State Investment	13.3
Tuition	3.5
Private Investment	2.4
TOTAL	19.2

This represents an average annual revenue stream of \$3.8 M. And with new appropriations, over the next biennium medical education will generate even greater revenues for WSU, amounting to **\$6.1 M/year**. These increments in state funding are expected to continue for many years to come, contributing to the sustained growth of the university’s overall budget.

4. INCEPTION AND DEVELOPMENT

The College of Medical Sciences is a natural outgrowth of the WWAMI medical education program. The formation of this College is driven by a need for expanded medical education. The WWAMI Program has not provided the growth necessary in medical education over its 40 year history (see Section 2). Along with the local medical community, the WSU faculty currently participating in the WWAMI Program is eager to modernize and expand medical education in the region. This faculty, along with the faculty of the Department of Speech and Hearing, is also already leading successful programs in wide-ranging medically-related research, spanning fields such as cancer, applied neuroscience (sleep and behavioral health), reproduction, speech, and audiology (see Appendix E).

The idea to create this proposed College of Medical Sciences arose from meetings with President Floyd, then Provost Bayly, and senior leadership from the Health Sciences campus in Spokane. The proposal was prepared by the leadership in the WSU WWAMI program in Spokane, spearheaded by Ken Roberts,

Director of the WSU WWAMI program. The idea of creating a college for Medical Sciences has been extensively discussed and vetted with the faculty in the WWAMI program. It has been presented at faculty meetings where various iterations on the college proposal were discussed. The present document represents a consensus of those discussions. As the proposal incorporates the faculty in the Department of Speech and Hearing Sciences (SHS), these faculty members have also been engaged through their Chair, Dr. Gail Chermak. In addition, Dr. Roberts has met with the faculty in SHS to get their direct input on the proposal. The SHS faculty members are decidedly in favor of becoming part of the new College of Medical Sciences. The leaders of the Colleges of Pharmacy and Nursing have also been engaged in the discussions of this proposal, and they are in favor of the formation a new College of Medical Sciences as the home for medical education on the Spokane campus.

The WWAMI program is currently recruiting several new faculty members to support the growth of the program. These faculty are being informed of the likelihood of the College of Medical Sciences being in place before they arrive at WSU Spokane. These recruits are comfortable with the prospect of joining a new college and are eager to contribute to a new and growing college in the WSU system.

5. SYNERGY WITH OTHER COLLEGES AT WSU

Synergy on the WSU-Spokane Campus

The colleges of Medical Sciences, Pharmacy, and Nursing on the WSU Spokane campus share the overarching goals of research, scholarship, education, service, and outreach for the advancement of human health. However, each college approaches the subject from an angle that leverages its own specific core competencies. These approaches can be highly complementary, affording countless opportunities for productive collaborations among the faculty.

Synergy with the Pullman Campus

The Colleges of Veterinary Medicine and of Arts and Sciences, among others, have an outstanding track record of excellence in life sciences research. The research conducted by the College of Medical Sciences will build upon that solid foundation by advancing some of the discovery research conducted in Pullman to the translational stage, thereby bridging the gap between the basic and clinical sciences. A successful example of this synergy is the Sleep and Performance Research laboratory in Spokane, an outgrowth of the neuroscience research strength in Pullman. Furthermore, many of the discoveries in the fields of animal health and of human health can be highly valuable to the other. With the foundation of the College of Medical Sciences, WSU has an opportunity to become recognized as a model of close collaboration between veterinary and human medicine.

Coordinated Growth and Recruitment for a World Class Campus

Development of the College of Medical Sciences will leverage the relocation and growth of the College of Pharmacy, as well as the prominent presence of the College of Nursing. As it grows, the college of Medical Sciences will benefit from the stellar reputation of these two colleges to recruit the best new talent to the Health Sciences Campus. The coordination in hiring will be achieved through close cooperation and joint strategic planning between the deans of the three colleges.

Market Segmentation

In addition to medical students, the College of Medical Sciences will attract graduate students aiming for careers in applied medical sciences in a hospital setting or in industry, rather than for academic careers in basic research. These students will be given opportunities to collaborate with students who are pursuing careers in the basic sciences through one of the excellent existing WSU graduate.

Interprofessional Education

Interprofessional education is becoming increasingly emphasized by accreditation bodies in all health profession programs, and is therefore of strategic importance for WSU. With its vibrant Riverpoint Interprofessional Education and Research (RIPER) initiative, WSU's Health Sciences Campus is already on the forefront of interprofessional education nationally. And WSU's College of Education is also contributing invaluable expertise and innovative ideas for the promotion of collaborative education in the health sciences. The addition of the College of Medical Sciences will bring an important new dimension to the existing educational collaboration between the colleges on this campus. A comprehensive report on the interprofessional education activities on the Spokane campus can be found in Appendix D.

Faculty Appointments

In the last few years, many faculty members on the Spokane campus who teach medically-oriented subjects have gradually merged into a group calling itself informally *Medical Sciences*. Joining the College of Medical Sciences, once it is formed, will be strictly voluntary. And faculty will be encouraged to maintain cross-appointments with other WSU colleges, to continue fostering collaborative research.

Contributing to Shared Resources

As the WSU-Spokane campus develops into a comprehensive, tight-knit Health Sciences campus, the college of Medical Sciences will take full advantage of campus resources shared with other colleges, such as Library Services, Student Services, IT, HR, Hospital Relations, Industry Relations, and Legal Affairs. It will also gladly share its own research and educational resources with faculty from other WSU colleges to strengthen ties within the university community.

6. VALUE CREATION

When fully developed, the College of Medical Sciences will:

- Be a net profit center for the university.
- Be a vibrant center of extramurally-funded biomedical research. The College of Medical Science will focus on medically relevant research areas, with an emphasis on the translational research pipeline (T1 to T4).
- Train new physicians and scientists to become leaders in their field
- Interact closely with the other colleges to create enriching inter-professional educational opportunities for our respective students
- Expand productive medical research collaborations between WSU and partner hospitals.
- Work closely with external organizations and the private sector to develop internship opportunities for its graduate students. These will include clinical labs and hospitals, as well as biotech, pharmaceutical, diagnostic, and medical technology companies.
- Create valuable intellectual property around breakthrough innovations in diagnostics and new approaches to patient care. Faculty in the College of Medical Sciences will be encouraged to give careful consideration to licensing and commercialization potential when prioritizing their research opportunities.
- Work closely with WSU's new Office of Commercialization to develop and commercialize valuable innovations
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7. EDUCATIONAL PROGRAMS

Once formed, the College of Medical Sciences will submit proposals to the faculty senate for new graduate and professional programs that complement those already offered by WSU, while avoiding any overlap.

8. RESOURCES

Leadership, Faculty, Staff, and Students

	FY 14	FY 23
Dean	1	1
Associate Deans	0	2
Assistant Deans	0	3
Department Chairs and Directors*	1	8
Functional Managers	8	8
Research Faculty and Staff	28	136
Other Teaching Resources	8	32
Graduate Students Enrolled	0	199
Postdocs Employed	2	91
Medical Students	40	320
Clinical Faculty teaching years 1&2	0	16
Clerkship coordinator	0	1
Administrative Assistants	4	34
Vivarium personnel	4	13
Core facility personnel	4	13

(* Includes clinical functions)

Future expansion phases are already being envisioned to narrow the gap relative to the additional 289 students per class needed for Washington to meet the national average of MD production per capita.

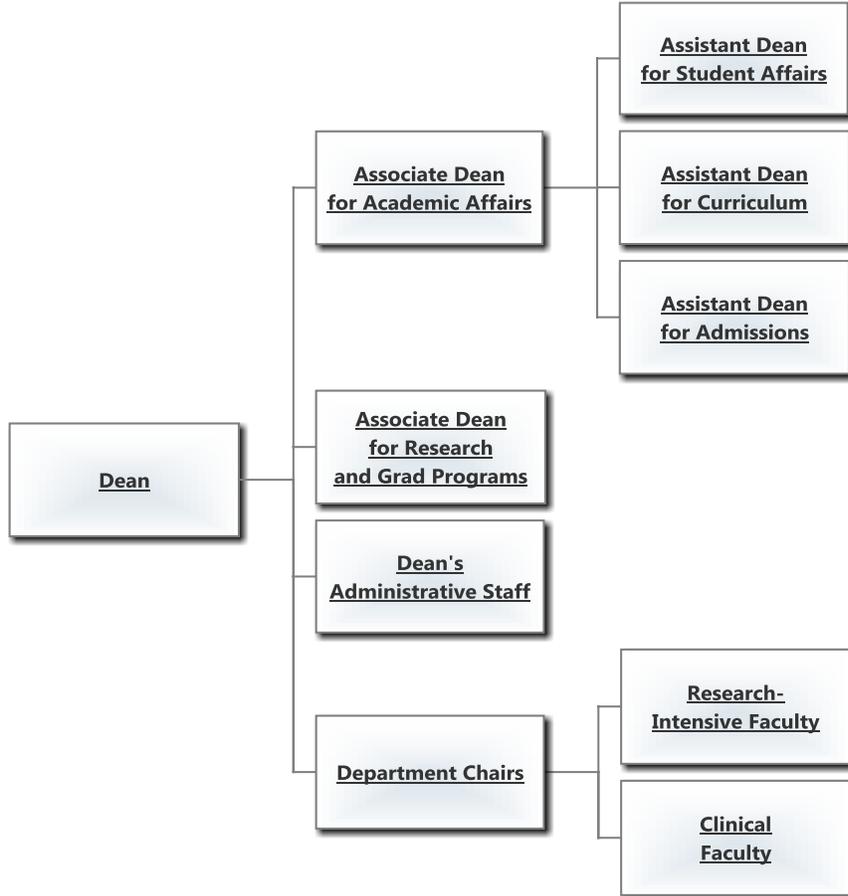
Within ten years, the research faculty and staff will grow from 28 to 136. However, right from the outset the College of Medical Sciences will build on the strengths of the College of Pharmacy and of the College of Nursing through joint appointments of many of their faculty.

Facilities

The College of Medical Sciences will initially be housed in the new *Pharmaceutical and Biomedical Sciences Building* on the WSU-Spokane Campus, which is shared with the College of Pharmacy. This building contains offices, research laboratories, teaching laboratories, classrooms, and a vivarium. However, to accommodate the rapid near-term growth of the colleges of Pharmacy and of Medical Sciences, as well as an additional 50% growth beyond 2023, an additional building will be needed within the next decade.

9. ORGANIZATIONAL STRUCTURE

The organizational structure will aim to be consistent with that of other WSU colleges of similar size, and conform to national standards for medical education.



10. BUDGET

The following is a projected summary budget for the College of Medical Sciences for the fall of 2015 when the class size will reach 40 students per year in years 1 and 2 of medical school. The revenues to be used for establishing and operating the College of Medical Sciences have already been appropriated by the state to the WSU WWAMI Program.

Net Revenue Stream as of fall 2015 \$6,116,000

Current Expenses - WWAMI/Medical Sciences

Administration (Director & 2 Associate Directors)	\$408,000
Tenure/Tenure-track faculty (4)	\$380,000
Clinical Faculty (4)	\$520,000
Part time clinical faculty (13)	\$175,000
Staff (2)	\$244,000
Operating	\$180,000
Total	\$1,907,000

Current Expenses - Speech and Hearing Sciences

Chair and Tenure/Tenure-track faculty (6)	\$513,000
Clinical Faculty (4)	\$243,000
Staff (2)	\$80,000
Operating	\$30,000
Total	\$866,000

Projected Additional Expenses with program expansion and College formation

Administration (Permanent Dean)	\$200,000
Tenure/Tenure-track faculty (8)	\$900,000
Clinical Faculty (6)	\$480,000
Part time clinical faculty (7)	\$405,000
Staff ()	\$400,000
Operating	\$500,000
Total	\$2,885,000

Anticipated investment in PhD program \$400,000

Total Expenses \$6,058,000

11. CONTACT INFORMATION

For questions about this document or its development, please contact Ken Roberts, PhD, Director, WSU Spokane WWAMI Program: 509-358-7515; kenroberts@wsu.edu

12. APENDICES

A. American Association of Medical Colleges (AAMC) Report on U.S. Medical School Enrollments

PDF document embedded:



Total Enrollment in
US Medical Schools.pr

B. Physician Supply and Demand Gap Analysis Report by the Expansion Committee

PDF document embedded:



Expansion
Committee Report

C. Report on Interprofessional Education on the Spokane Campus

Word document embedded:



RIPER Report

D. Faculty Slated for Appointments or Cross-Appointments to the College of Medical Sciences

Direct appointments to Medical Sciences

1. **Ken Roberts.** Associate Professor, School of Molecular Biosciences. Director, WWAMI Spokane. Research: Molecular and cellular biology of male gamete production, maturation and function. Teaching: Biochemistry, Histology
2. **Weihang Chai.** Assistant Professor, School of Molecular Biosciences. Research: Molecular mechanism for telomere maintenance and tumor suppression. Teaching: Course Director, Immunology
3. **Jonathan Wisor.** Associate Professor, Integrative Physiology and Neuroscience. Research: Roles of discrete neuronal populations and molecules in sleep regulation and function. Teaching: Immunology; Nervous System
4. **Eva Szentirmai.** Assistant Professor, Integrative Physiology and Neuroscience. Research: Neuronal regulation of sleep-wake activity, feeding and metabolism. Teaching: Histology; Nervous System
5. **Levente Kapas.** Associate Professor, Integrative Physiology and Neuroscience. Research: Endocrine control of sleep and metabolism. Teaching: Course Director, Histology; Nervous System
6. **James Krueger.** Regents Professor, Integrative Physiology and Neuroscience. Research: Biochemical regulation of sleep, sleep as part of the host-defense system and how the brain is organized to produce sleep. Teaching: Graduate courses in IPN.
7. **George Novan.** Clinical Professor, Medical Sciences. Associate Director, WWAMI Spokane. Teaching: Course Director, Introduction to Clinical; Microbiology
8. **Chris Coppin.** Clinical Associate Professor, Associate Director for Curriculum and Faculty Development. Teaching: Course Director, Cell Physiology.
9. **Matt Layton.** Clinical Professor. Research: Psychological and physiological changes in smokers. Teaching: Course Director, Systems of Human Behavior.
10. **David Conley.** Teaching: Anatomy. Director, Willed Body Program.
11. **Dan Topping.** Research: Clinically oriented gross anatomy and educational research. Teaching: Anatomy, Learning Technology
12. **Katerine Roberge.** Instructor. Teaching: Anatomy, Histology, Nervous System.
13. **Hans Van Dongen.** Research Professor. Research: Sleep, sleep loss and cognition: basic mechanisms, functional outcomes, and operational management. Teaching: Graduate education in neurosciences and psychology.
14. **Greg Belenky.** Research Professor. Research: Sleep, sleep loss, and human performance, health, and well-being. Teaching: Course Director, Nervous System.
15. **Chris Davis.** Research Assistant Professor. Research: Neurobehavioral substrates of sleep and memory processes. Teaching: Cell Physiology. Graduate education in neuroscience.

16. **Ted Chauvin.** Clinical Assistant Professor. Research: Molecular and cellular biology of male gamete production, maturation and function. Teaching: Course Director, Biochemistry.
17. **Bin Shan.** Research Assistant Professor. Research: Molecular mechanisms of tumor-modulating actions by the tumor microenvironment. Teaching: Cell Physiology.
18. **Jeannie Padowski.** Clinical Assistant Professor. Research: CNS pharmacokinetic and pharmacodynamic modeling. Teaching: Pharmacology
19. **Mark VanDam:** Assistant Professor: Acoustic Phonetics, Childhood Deafness, Phonology
20. **Leslie Power:** Clinical Professor: Aphasia, Dysphagia, Language Learning Disabilities
21. **Amy Meredith:** Clinical Associate Professor: Apraxia (childhood), Cleft Lip and Palate, Motor Speech Disorders (children), Neuroanatomy (speech and hearing), Speech Production
22. **Nancy Potter:** Associate Professor: Apraxia (childhood), Dysarthria, Dysphagia, Galactosemia, Genetic Disorders, Motor Speech Disorders (children), Swallowing Disorders
23. **Charles Madison:** Professor: Assessment and Testing, Cleft Lip and Palate, Voice Disorders
24. **Sandy Bassett:** Clinical Associate Professor: Autism/Asperger's Syndrome, Cleft Lip and Palate, Developmental Dyspraxia, Pediatric Swallowing Disorders
25. **Gail Chermak:** Professor and Chair: Central Auditory Processing Disorders
26. **Ella Inglebret:** Associate Professor: Cultural Factors Affecting Speech and Language, Phonetics, Working with Native American Populations

Cross-appointments from the College of Pharmacy

1. **Mike Gibson.** Tenured professor, clinical pharmacology, genetics
2. **Mary Paine.** Tenured associate professor, clinical pharmacology, pharmacokinetics (start date July 1)
3. **Sue Marsh.** Tenure-track assistant professor, physiology
4. **Phil Lazarus.** Tenured professor, genomic sciences
5. **Andrea Lazarus.** Clinical professor, multi-program proposal development
6. **David Liu.** Tenure-track associate professor, mechanisms of apoptosis, neurology, cancer (start date August 1)
7. **Connie Remsberg.** Clinical assistant professor, pharmacokinetics/pharmacodynamics (start date July 1)
8. **Zhenjia Wang.** Tenure-track assistant professor, therapeutic nanoparticles, cellular trafficking (anticipated start date September 1)
9. **Carla Gallagher.** Tenure-track assistant professor, genomic sciences, gene-environment interactions (final stages of recruitment; anticipated start date January 1, 2014)
10. **Jamie Gallagher.** Clinical associate professor, biochemistry, microbiology, scholarship of education (final stages of recruitment; anticipated start date January 1, 2014)
11. **Jiyue Zhu.** Tenured professor, telomerase reverse transcriptase, aging, cancer (final stages of recruitment; anticipated start date January 1, 2014)
12. **Bill Freeman.** Tenured professor, genomic sciences, systems neurobiology (final stages of recruitment; anticipated start date November 1, 2013)

13. **Shuwen Wang.** Clinical associate professor, microbiology and immunology (final stages of recruitment; anticipated start date January 1, 2014)

Cross-appointments from the College of Nursing

1. **John Roll.** Associate Vice Provost for Graduate Education and Scholarship. Research: Human behavioral pharmacology, the development and refinement of behavioral interventions for addiction and other psychiatric disorders.
 2. **Kenn Daratha.** Assistant professor. Research: Health outcomes. Teaching: Course director – Medical Information and Decision Making
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