EXPLANATION OF PROPOSED CHANGES IN THE MEDICAL STUDENT CURRICULUM
MAY 2001

BACKGROUND

The UWSOM is committed to admitting students who:

- Bring a wide diversity of background, interests, and intellectual preparation to our academic environment; and

- Come to medical school as intellectually curious, self-motivated learners, evidencing a desire for continued personal growth.

The UWSOM is committed to graduating students who:

1. Leave to pursue diverse careers in the profession, thereby meeting the health workforce needs of the state, region, nation, and world.

2. Enhanced their individual interests and special areas of knowledge while in medical school.

3. Know and understand the historic values, ethics, goals, and development of the profession of medicine.

4. Are well grounded in the disciplines underlying medical knowledge and practice (natural sciences, social sciences, behavioral sciences, and humanities), understanding their methods and having current knowledge contributed by each.

5. Have superior general clinical knowledge, skills, and attitudes required of all doctors of medicine and expected by all generalist and specialist residency programs.

6. Communicate professionally, compassionately, and effectively to create a partnership with patients and other health care professionals to facilitate shared decision making.

Graduating physicians will see dramatic changes in the scientific foundations of the practice of medicine, in how physicians interact with patients and other health care professionals, and in how the health care is financed. The UWSOM must strive to provide the knowledge, skills, and enthusiasm for lifelong learning that will be required to excel in this dynamic environment.

The UW School of Medicine launched a comprehensive review of the curriculum in the Fall of 1998. The focus of the review is preparing students for the practice of medicine in the first quarter of the 21st century.
The first phase of the review was completed in September 1999. A broad cross-section of faculty and students were included in the work through the various committees, focus groups, and surveys. The initial phase focused on assessing the strengths and weaknesses of the current curriculum and identifying opportunities for enhancement.

The second phase of the review, completed in September 2000 was devoted to developing recommended changes to address areas of focus identified in Phase I, including:

1. Engaging the students – Providing the knowledge, skills, and enthusiasm for lifelong learning that will be necessary to excel in the practice of medicine.

2. Enhancing skills development – Defining, measuring, and ensuring the opportunity to develop proficiency in the professional and personal skills required to excel in the practice of medicine.

3. Improving management and oversight of the curriculum – Establishing clear performance expectations for each course and ensuring that the processes are in place to provide continuous quality improvement of the curriculum.

4. Addressing specific content issues – Identifying practical approaches to address the concerns and opportunities raised in Phase I with respect to specific courses and the fourth year.

5. Enhancing faculty development and teaching skills – Defining a faculty development program based on balanced evaluation of teaching performance and ensuring that faculty receive appropriate recognition for teaching effort.

Work groups comprised of basic science and clinical department faculty, students, and administrators were created for each of these five focus areas.

The general charge to the work groups was to:

- Identify and evaluate approaches to achieve the defined goals;

- Determine how the curriculum content, structure, and/or administration could be altered to incorporate those approaches; and

- Define the resource and other requirements associated with the changes.

In addition to the work groups, there were three subcommittees formed by the Steering Committee to address:

- Informatics (i.e., computer-based retrieval and management of medical information);

- Research training & the Independent Study in Medical Science (ISMS) program; and
• Medical student mentoring.

The recommended changes in the curriculum reflect the general conclusions reached in the first phase assessment that:

• The basic structure of the curriculum is sound and contemporary;

• The performance of our students on US Medical Licensing Exam Steps I and II and in the residency match do not present any cause for concern regarding the basic scope and depth of student learning; but

• There is a need to sharpen the focus of the curriculum on the skills that are and will be fundamental to the practice of medicine and to enhance the quality of the learning experience during the medical school years.

**Key Elements of the Revised Curriculum & Student Experience**

The following is a brief chronology of the recommended changes in the curriculum and the medical school experience as they will appear to the student.

**Pre-matriculation**

The first change that entering students will experience occurs several months before matriculation. Entering students will be expected to possess a basic level of computer literacy and to obtain training prior to entry if there are deficiencies. This will change the focus of the new student orientation session on informatics to discovery and use of information (information literacy).

**Year 1**

Entering students will be assigned to one of five “colleges.” The broad goals of the colleges are three-fold:

• To provide a consistent student/faculty relationship throughout the students’ tenure in school;

• To provide a better sense of student identity within the large student body; and

• To provide a core faculty focused on enhancing continuity of curricular content and student experience throughout the students’ medical student years.

Each college will be comprised of approximately 36 students from each class (or a total of 144 students) and will have a core faculty of six. Thus, each core faculty member will advise and counsel a group of 24 students – six in each of the four years of medical
school. The role of the college faculty and the nature and intensity of interactions between college faculty and students varies over the four years.

Students will also be introduced to the use of a web-based Professional Skills Portfolio. The portfolio is a tool for establishing and measuring progress against learning objectives and developmental benchmarks (SOM-defined and self-defined) throughout the four years of medical school. The Portfolio will incorporate developmental objectives in each of the following five areas – professionalism and ethics, communication, clinical reasoning, diagnostic skills, and information literacy – for each year of medical school. It also serves as a key element of the foundation for student interactions with their college faculty member.

Students will be required to complete a continuity experience comprised of two parts:

- **Patient Experience** - During the first year of medical school, and again during the second year of medical school, all students will interview a patient with a chronic disease who is utilizing the healthcare system with recurrent visits. The focus of the interview will not be the patient's disease, but will instead be the patient's experience with the healthcare system. After each interview, the student will answer several open-ended questions about the his/her experience in written form.

- **Physician Experience** - During either the first or the second year of medical school, each student will complete a one quarter long, one half day per week preceptorship in an ambulatory care setting. The student will work with a physician preceptor who is engaged in continuity-oriented, patient care. During or after the preceptorship, the student will discuss, either orally or in writing, the use of continuity of care with both his/her preceptor and a faculty member.

All students will take a 1-credit course focusing on critical reading and evaluation of the medical literature as it appears in the popular press. This course will:

- Provide students with an introduction into the methods of retrieving and evaluating medical information;
- Introduce students to critical reading; and
- Relate the above two objectives to the students’ ongoing basic science work and clinical medicine.

Although there will be no other recommended changes in the existing Basic Science courses in the first or second year, students can expect to see more use of clinical examples, small group teaching, and an increased emphasis on critical thinking and integration of material.
Year 2

In the second year, the Introduction to Clinical Medicine Course (ICM II) will serve as the foundation for the intensive phase of the “college” experience. The ICM II course will be taught by 30 college faculty at three UW AMC hospitals (UW Medical Center, Harborview Medical Center, and the Veteran’s Administration Medical Center). Each of the colleges will have six faculty and thirty-six second-year students. Thus, each faculty member will work intensively with six second-year students throughout the year. There will have been contact between the faculty member and these six students in the first year, and the relationship between the faculty member and these six students will continue throughout the third and fourth years through personal contact and web-based dialogue around the Professional Skills Portfolio.

Students will complete the first of two formal skills assessments in the Spring Quarter of the second year. These assessments will be “station exams” that make use of standardized patients, simulations and structured clinical exams designed to provide a comprehensive assessment of student progress. The results of the exam will provide an important basis for dialogue and planning between the student and his/her college faculty mentor.

Toward the end of the Spring Quarter, students will participate in an informatics workshop to prepare them to use clinical information systems they will encounter in their clerkship years. The focus will be on the UW clinical digital library for patient care questions and remote connectivity at non-UW locations and alternative information systems. The content would include topics such as finding and appraising evidence, using electronic medical records, coding, problem lists, and security issues and access control.

Year 3 (required clerkships)

Currently, required clerkships include:

- 6 weeks of Pediatrics, Surgery, Psychiatry, Obstetrics and Gyencology, and Family Medicine;
- 12 weeks of Internal Medicine;
- 4 weeks of Emergency Medicine; and
- 2 weeks of Chronic Care.

The clerkship years will include several new and expanded courses, including:

- A required four-week Neurology clerkship;
- A four-week expansion of the surgical clerkship requirement with additional emphasis on the surgical sub-specialties and outpatient evaluation of patients; and
- A two-week expansion of the Chronic Care clerkship emphasizing the impact of chronic medical conditions and disabilities on routine treatment planning.

Clerkship experiences will continue to be available and encouraged throughout the WWAMI region.

Students will have access to a web-site to assist in making their selection of elective clerkships during year 3. This site will include recommended curricula from each clinical department, an overview of the learning objectives and content of each elective clerkship, and evaluative information from students for each elective.

Year 4 (required clerkships and electives)

Currently, most students complete the Emergency Medicine and Chronic Care required clerkships in the first part of the fourth year. The expansion of required clerkships will require that most students devote more of the Fall and Winter Quarter to completion of the required clerkship phase of their training. The elective requirement is being reduced by 16 credits (8 weeks) and broadened to include non-clinical courses.

Students will complete the second of two formal skills assessment periods in the Fall or Winter Quarter. Again, this will provide a foundation for dialogue with their college faculty, including steps required to remediate any problems identified in the exam.

All students will be required to participate in a “capstone course” held during the two weeks preceding Match Day. Students will receive 4 credits for this course. The first week will focus on a range of topical issues (e.g., risk management, health care finance, ethical issues) and refresher topics such as clinical pharmacology. The second week will concentrate on pre-residency skills such as technical procedures (IV’s, NG tubes, etc.), medical record management, note and order writing, and stress management. During the two weeks, there will be an opportunity to obtain ACLS certification for those students who have not obtained their certification in the Emergency Medicine clerkship.

INDEPENDENT INVESTIGATIVE INQUIRY

The current program requires every student graduating from the University of Washington School of Medicine to have first-hand experience in the acquisition and synthesis of new knowledge. Students must write a research paper either based on investigations of their own or a critical review of the literature related to a particular problem. The ISMS program is an independent study program with the exception of those students who complete the requirement via the Medical Student Research Training Program (MSRTP) or nascent Rural/Underserved Opportunities Program (R/UOP) research program. Students are linked with mentors who work with the student to define and complete the project.
We recognize that although the ISMS experience is positive for many students there are also a number of problems with the program. Most of these problems revolve around the mentoring and time-management aspects of the program. We feel these problems are serious enough that the ISMS program should not continue in its present form. Rather, we recommend that the program be re-structured as a selective.

We have designed a new program called the Independent Investigative Inquiry. Students will have the opportunity to select from three options that will lead to the completion of this requirement. Students will receive 7 credits upon completion of the report resulting from their chosen study, and the final 1 credit upon acceptance of the report. The only defined exception to this requirement will be for MD/PhD students. The program requirement Committee may elect to grant other exceptions on a case-by-case basis.

The objectives of this Independent Investigative Inquiry requirement should lead the student:

A. To have first-hand experience in the acquisition and synthesis of new knowledge;
B. To understand a health-related issue in depth;
C. To foster a mentoring relationship with a faculty member outside the usual course structure;
D. To summarize the experience or findings in a written document.

Students will have the opportunity to select from four options that would lead to the completion of the Independent Investigative Inquiry requirement, including:

Selective 4:

Selective 1 – MSRTP or R/UOP Research Project (Summer between Year 1 and 2)

A hypothesis-driven investigation of a question developed by the student. This could be a MSRTP or RUOP research project (summer between years 1 and 2) or independent study using original research.

The MSRTP or R/UOP research advisor serves as the MSS mentor and evaluates the final report for completion of the requirement.

Selective 2 – Independent Study using Original Research or Literature-based Information

A critical analysis of the literature about a question developed by the student.

Students may elect at any time prior to the end of the Winter Quarter of the 3rd year to engage in independent research using original data or literature-based study. The III
Committee will approve the projects, assist the student to identify a faculty mentor, and oversee the evaluation of the final report. The student’s work will be overseen by a faculty mentor. Students may elect to incorporate information and/or insights gathered from a related clinical experience to complement the literature-based study.

**Selective 3**-- An experience-driven investigation of an issue developed by the student while participating in RUOP, CHAP, an international or other clinical experience.

**Selective 4-- Systematic Review of the Medical Literature**

A structured, 4-week course offered in Winter Quarter of the fourth year emphasizing critical reading of the medical literature.

Although the course is designed for, and preference given to, those students who have not opted Selective 1, 2 or 3, the course will also be open to other students.

The course will emphasize critical reading of the medical literature, including:

- Advanced techniques for retrieval, evaluation, and organization of information;
- A detailed examination of the components of a review article;
- Issues related to patient-based research.

The course will be managed by the Department of Medical Education. Study selection, mentoring, and evaluation will occur within the context of the course.

**Required Electives**

Students are currently required to complete 24 weeks (48 credits) of clinical electives during the clinical phase of the curriculum (years 3 and 4). There are two recommended changes that affect this requirement:

- The total number of weeks/credits will be reduced to 16 weeks/32 credits in recognition of the added clinical clerkship requirements; and
- The electives will not be limited to “clinical” courses. The balance between clinical and non-clinical courses will reflect the interests and needs of each student.

We believe that these changes are sensitive to the overall burden of the medical student curriculum and the need to provide additional flexibility to students to pursue specific, individual interests.
The following table summarizes the impact of the changes on the graduation requirements for medical students.

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<tr>
<th>Curriculum component</th>
<th>Current requirement</th>
<th>Proposed requirement</th>
<th>Description of change</th>
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<tbody>
<tr>
<td>Basic Science (required courses)</td>
<td>122 credits</td>
<td>124 credits*</td>
<td>▪ Critical reading course in 1st year (1 credit)</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>▪ Continuity requirement in 1st and 2nd years (1 credit)</td>
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<tr>
<td>Clinical (required clerkships)</td>
<td>96 credits/48weeks</td>
<td>116 credits/58 weeks</td>
<td>▪ Neurology clerkship (8 credits/4 weeks)</td>
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<td></td>
<td></td>
<td></td>
<td>▪ Chronic Care clerkship enhancement (4 credits/2 weeks)</td>
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<td></td>
<td></td>
<td></td>
<td>▪ Surgery clerkship enhancement (8 credits/4 weeks)</td>
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</table>
| Required Electives                    | ▪ 4 credits – non clinical selectives  
 ▪ 48 credits – clinical electives | ▪ 4 credits – non clinical selectives*  
 ▪ 32 credits – clinical or non-clinical electives | ▪ Reduction in elective requirements  
 ▪ Flexibility to choose clinical or non-clinical courses |
| Study in Medical Sciences             | 6 credits – Independent Study in Medical Sciences | 8 credits – Independent Investigative Inquiry | ▪ Options expanded to include a 4th year, 4-week course in Systematic Review of the Medical Literature |
| Capstone course                       | None                | 2-week (4 credit)    | ▪ Required course at the end of the Winter Quarter of the 4th year |

* The 4 credits for non-clinical selectives are included under the Basic Science Phase on Form 1503 to reflect how we plan to state this in the catalog. It is included as an elective on this page to provide a clearer comparison by component.