

**University of North Dakota
School of Medicine & Health Sciences (UNDSMHS)**

Goals, Objectives, and Assessment of Student Learning

Educational Program Leading to the M.D. Degree

2004

FORWARD

This document has been developed for the purpose of articulating our master curriculum plan. The educational program leading to the M.D. degree has changed in response to perceptions that current medical education is inadequate to prepare graduates for the 21st century, because of new accreditation standards, and most recently, because of pressures from economic and clinical practice changes. UNDSMHS faculty members, the Medical Curriculum Committee, administration and students have partnered in the design, implementation, and evaluation of our renewed curriculum. Together we face new challenges.

Articulated within this document are the competencies that will be needed by students who enter the practice of medicine in the next century, and how these skills, knowledge, attitudes, and behaviours will be taught and evaluated. Stated here are goals for implementation, where and how students will be taught, and how we will evaluate curricular quality and outcomes.

The partners in curriculum change are encouraged to use this document as a road map for planning and understanding the educational goals and objectives of the four year medical education experience. This is meant to be a working document. It has been developed by members of the Medical Curriculum Committee, who have received endorsement from the Faculty Academic Council for its institutional approval. Our thanks goes out to the Association of American Medical Colleges (AAMC) Medical School Objectives Project as well as to other medical schools for their contributions to our thought process.

The Philosophy of Education and Goals are statements of broad institutional aspirations for education, research, health care, and community service.

The Objectives of the medical education curriculum are the skills and behavioural outcomes that UNDSMHS expects its students to be able to do or perform in order to be assessed as competent.

PHILOSOPHY OF EDUCATION

Our goal is to prepare medical graduates to be competent, caring physicians who have the skills of lifelong learning necessary to incorporate new knowledge and methods into their practice and to adapt to a changing professional environment. They should be able to identify, analyze, and manage clinical problems effectively and humanistically.

Toward these ends, our students should demonstrate: (a) the values and attitudes that promote caring and concern for the individual and society; (b) the ability to obtain, assess and apply knowledge of the basic sciences, clinical sciences, social sciences, and the humanities; (c) skill in the collection of clinical information, in communication and in building rapport with patients and other professionals in order to facilitate diagnosis and therapy; and, (d) a scholarly awareness of the traditions, power, limits, and culture of medicine.

As technology, patient care, and medicine itself change, UNDSMHS's teaching programs are changing with them to provide the best physicians possible for the 21st century. Some of the educational innovations that enable UNDSMHS to meet the needs of medicine in the next century include an early introduction to clinical medicine and standardized patients, a patient-centered learning curriculum, and a special emphasis on rural medical education.

STUDENT LEARNING GOALS

Our six student learning goals are:

- 1. Students will become physicians who are self-directed, life-long learners.*
- 2. Students will become physicians who understand the scientific basis of medicine and are capable of applying that knowledge in the practice of medicine.*
- 3. Students will become physicians who are skilled in providing care to individual patients.*
- 4. Students will become physicians who use effective interpersonal and communication skills with patients, families, and professional associates.*
- 5. Students will become physicians who demonstrate a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse population.*
- 6. Students will become physicians whose actions demonstrate an awareness of and responsiveness to the larger context and system of health care and the ability to effectively call on system resources to provide optimal patient care.*

Our student learning goals are articulated in accordance with stated AAMC and Accreditation Council for Graduate Medical Education (ACGME) “domains” and “competencies”.

ACGME COMPETENCY: LIFELONG LEARNING

Goal 1: *Students will become physicians who are self-directed, life-long learners.*

Objective 1: Students will acquire knowledge and learn skills to stay current with changes in medical practice. Continued dependence upon science and technology learned during medical school will be insufficient.

Measurable Outcomes:

1. Graduates will demonstrate the ability to read, understand, and apply the results of scientific research.
2. Graduates will demonstrate skills in the use of computer technology to manage information and to search the biomedical literature.
3. Graduates will demonstrate ability to critically evaluate and incorporate relevant findings from the current medical literature into patient care.

Objective 2: Students will develop the motivation and skills to learn throughout one's professional life as an essential part of their medical education.

Measurable Outcomes:

4. Graduates will have acquired information management skills to support patient case decisions and to continue as lifelong learners.
5. Graduates will demonstrate skill in self-assessment.
6. Graduates will have the skills to analyze clinical medical research and understand the concept of evidence-based literature.

ACGME COMPETENCY: MEDICAL KNOWLEDGE

Goal 2: *Students will become physicians who understand the scientific basis of medicine and are capable of applying that knowledge in the practice of medicine.*

Objective 1: Students will learn the sciences basic to medicine in order to create a foundation for learning the principles of health promotion and pathobiology of disease.

Measurable Outcomes:

7. Graduates will demonstrate basic knowledge of normal body structure and function and how this is altered in diseases.
8. Graduates will demonstrate basic knowledge of existence of disease, including etiology, pathobiology, signs and symptoms, psycho-social context, diagnosis and general principles of management.

Objective 2: Students will acquire skill in identifying and resolving clinical problems, derived from a solid foundation in the health sciences.

Measurable Outcomes:

9. When presented with an array of patient problems, graduates will relate and apply essential basic science concepts and clinical knowledge base to the problem and the patient's treatment.
10. Graduates will demonstrate an understanding of the behavioral, social, and cultural factors associated with the origin and progression of disease.

ACGME COMPETENCY: CLINICAL SKILLS

Goal 3: *Students will become physicians who are skilled in providing care to individual patients.*

Objective 1: Students will acquire skill in gathering essential and accurate information about the patient.

Measurable Outcomes:

11. Graduates will be able to obtain, document and present an accurate history fitting the clinical encounter.
12. Graduates will be able to perform, document and present findings from an appropriate physical and mental status examination.

Objective 2: Students will learn to make diagnostic and therapeutic decisions based on patient information, knowledge of basic sciences, and clinical judgment.

Measurable Outcomes:

13. Graduates will use clinical reasoning and available data to derive a differential diagnosis.
14. Graduates will be able to develop a treatment plan using patient/disease characteristics to select the most appropriate therapy.
15. Graduates will be able to recognize and initiate management of life-threatening conditions.
16. Graduates will be able to demonstrate awareness of the appropriate use of specialty consultants.

Objective 3: Students will acquire competence in developing and carrying out patient management plans.

Measurable Outcomes:

17. Graduates will be able to formulate a problem list and design an appropriate management plan.
18. Graduates will competently identify and modify a diagnosis and treatment plan on the basis of continued monitoring and evaluation.
19. Graduates will be able to establish clinical priorities in case management.
20. Graduates will recognize the importance of the patient's family and community setting and how best to utilize appropriate family and community resources.
21. Graduates will demonstrate the coordination of care for patients with chronic disorders.

Objective 4: Students will develop skill in providing effective health maintenance and anticipatory guidance.

Measurable Outcomes:

22. Graduates will be able to discuss possible acute or long term complications of the illness with the patient and the family.
23. Graduates will be able to formulate preventive interventions that foster risk-reduction practices on the part of individuals, groups and communities.

Objective 5: Students will acquire basic procedural clinical skills.

Measurable Outcomes:

24. Graduates will be able to perform the following basic clinical skills
25. Taking vital signs (BP, P, R, T)
26. Foley catheters
27. Nasogastric tubes
28. Phlebotomy
29. Starting IV's and central venous access lines
30. Suturing skills
31. Lumbar punctures
32. Cardiopulmonary resuscitation

- 33. Cast application
- 34. Patient safety issues
- 35. Surgical scrub techniques

ACGME COMPETENCY: INTERPERSONAL AND COMMUNICATION SKILLS

Goal 4: *Students will become physicians who use effective interpersonal and communication skills with patients, families, and professional associates.*

Objective 1: Students will develop interpersonal and communication skills that result in effective information exchange.

Measurable Outcomes:

36. Graduates will demonstrate the ability to create a supportive environment conducive to effective communication between doctor, patient and other professionals in order to increase the probability of accurate diagnosis, patient satisfaction and compliance, and to decrease patient anxiety associated with potentially threatening medical interventions.
37. Graduates will demonstrate the ability to effectively communicate to the patient and/or family, and other members of the health care team, relevant information about the patient's clinical problem, condition and management plan.
38. Graduates will demonstrate the skill of obtaining patient informed consent.
39. Graduates will demonstrate skills in patient education.
40. Graduates will use clearly understandable oral and written communication.
41. Graduates will employ active and responsive listening skills.

Objective 2: Students will acquire skills to create and sustain a therapeutic and ethically sound relationship with patients.

Measurable Outcomes:

42. Graduates will consistently treat patients with empathy, compassion, respect and sensitivity toward their needs.
43. Graduates will be able to elicit and address the patient's understanding, concerns and fears about his or her illness.

ACGME COMPETENCY: ETHICS AND PROFESSIONALISM

Goal 5: *Students will become physicians who demonstrate a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse population.*

Objective 1: Students will develop professional attitudes and behaviors.

Measurable Outcomes:

44. Graduates will behave in an ethical, responsible, reliable, respectful, and dependable manner.
45. Graduates will demonstrate sensitivity and respect for diversity of culture, religion, age, gender, sexual orientation, and physical disabilities.
46. Graduates will demonstrate ability to communicate and work effectively with other health professionals as a member of a team to facilitate patient care.
47. Graduates will understand and practice patient confidentiality.
48. Graduates will project a professional image in interpersonal relationships, manner and dress that is consistent with the medical profession.
49. Graduates will know appropriate relationship boundaries with patient and co-workers.
50. Graduates will use appropriate and respectful language.
51. Graduates will demonstrate timeliness of responsibilities.
52. Graduates will use appropriate behavior in interviewing and examining patients.

Objective 2: Students will develop leadership skills.

Objective 3: Students will develop the ability to evaluate and improve their performance.

Measurable Outcomes:

- 53. Graduates will demonstrate an ability to identify areas of deficiency in their own performance.
- 54. Graduates are able to give and receive appropriate feedback.
- 55. Graduates will be able to independently seek out appropriate information from available resources when needed in the care of patients.

Objective 4: Students will develop an awareness of issues affecting modern medical practice.

Measurable Outcomes:

- 56. Graduates will be able to recognize and propose solutions for common and important moral, ethical and legal problems of medical practice.
- 57. Graduates will demonstrate awareness of the impact of financial issues on medical practice.
- 58. Graduates will demonstrate skills in patient advocacy.

ACGME COMPETENCY: SYSTEMS-BASED PRACTICE AND IMPROVEMENT

Goal 6: Students will become physicians whose actions demonstrate an awareness of and responsiveness to the larger context and system of health care and the ability to effectively call on system resources to provide optimal patient care.

Objective 1. Students will develop a basic understanding of cost-effective healthcare and resource allocation that does not compromise quality of care.

Measurable Outcomes:

- 59. Graduates will know costs of common diagnostics and therapeutics.
- 60. Graduates will know the cost of referrals and consultations.

Objective 2: Students will develop a basic understanding of the interaction of self-improvement and the improvement of health care systems.

Measurable Outcomes:

- 61. Graduates will identify key problems that may prevent optimal healthcare delivery.
- 62. Graduates will understand the concepts of quality assurance and improvement.
- 63. Graduates will understand the reciprocal impact of professional practice, healthcare teams, and healthcare organizations on the community and society.
- 64. Graduates will exhibit a pattern of continuous learning and self-care through self-directed learning and systematic reflection of their own experiences.

Objective 3: Students will develop an attitude that emulates the value of patient advocacy.

Measurable Outcomes:

- 65. Graduates will understand how to guide patients through the complexity of the healthcare system.
- 66. Graduates will understand how to advocate for quality patient care and assist patients in dealing with system complexities for the advancement of health of the population.
- 67. Graduates will understand the concept and practice of continuity of care.
- 68. Graduates will understand the barriers to healthcare access.
- 69. Graduates will recognize the prevalence and impact of medical errors.
- 70. Graduates will understand basic medical error identification and alleviation strategies.

Objective 5: Students will develop skills in functioning both as a team member and as a team leader to assess coordinate, and improve health care and understand how these activities can affect system performance.

Measurable Outcomes:

- 72. Graduates will identify the principles of effective team work participation.
- 73. Graduates will identify the principles of effective team leadership.
- 74. Graduates will identify potential barriers to the effective coordination of care of patients with multiple healthcare needs and providers.
- 75. Graduates will demonstrate an understanding of the role of different specialists and other health care professionals in overall patient management.

Objective 4: Students will develop an understanding of the principles of patient safety.

- 70. Graduates will recognize the prevalence and impact of medical errors.
- 71. Graduates will understand basic medical error identification and alleviation strategies.

Objective 5: Students will develop skills in functioning both as a team member and as a team leader to assess coordinate, and improve health care and understand how these activities can affect system performance.

- 72. Graduates will identify the principles of effective team work participation.
- 73. Graduates will identify the principles of effective team leadership.
- 74. Graduates will identify potential barriers to the effective coordination of care of patients with multiple healthcare needs and providers.
- 75. Graduates will demonstrate an understanding of the role of different specialists and other health care professionals in overall patient management.

ASSESSMENT METHODS

GOAL 1. Students will become physicians who are self-directed, life-long learners.

Assessment of student acquisition of critical analysis skills by way of evaluation of written or verbal presentations of journal article critiques in a small group learning environment and in clinical rotations

Assessment of acquisition and integration of knowledge as a part of participation in patient-centered learning small groups reviewed by faculty using the Sequenced Performance Inventory and Reflective Assessment of Learning (SRIPAL) rubric

Research projects analyzing and addressing a community health problem

Student incorporation of basic personal computer applications into required course assignments, such as writing assignments, entering information into a student database of clinical experiences, as well as for statistics projects

Residency Program Director surveys

GOAL 2. Students will become physicians who understand the scientific basis of medicine and are capable of applying that knowledge in the practice of medicine.

SMHS-generated as well as nationally-normed knowledge-based examinations that include multiple choice and essay questions

USMLE licensure examinations

Patient-centered learning small group participation by faculty using the Sequenced Performance Inventory and Reflective Assessment of Learning (SRIPAL) rubric at mid-block and end-of-block

Clinical Skills Assessments – formative and summative experiences

Student satisfaction surveys

Residency placement

GOAL 3. Students will become physicians who are skilled in providing care to individual patients.

Clinical preceptor assessments in which supervising physicians will evaluate selected elements of history, physical, and clinical procedural skills during clinical rotations using checklists and other specifically-designed assessment instruments.

Performance using standardized patients

Electronic database of patient encounters

Student satisfaction surveys

Clinical Skills Assessments – formative and summative experiences

USMLE licensure examinations including clinical skills component of Step 2

Residency placement

Residency Program Director surveys

GOAL 4. Students will become physicians who use effective interpersonal and communication skills with patients, families, and professional associates.

Patient-centered learning small group participation as a peer teacher/communicator evaluated by faculty using the Sequenced Performance Inventory and Reflective Assessment of Learning (SRIPAL) rubric at mid-block and end-of-block

Patient case presentations to peers

Clinical preceptor assessments in which supervising physicians will evaluate selected elements of history, physical, and clinical procedural skills during clinical rotations using checklists and other specifically-designed assessment instruments.

Performance using standardized patients

Clinical Skills Assessments – formative and summative experiences

USMLE licensure examinations including clinical skills component of Step 2

Residency placement

Residency Program Director surveys

GOAL 5. Students will become physicians who demonstrate a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse population.

Use of standardized patients and review of student interviews

Patient-centered learning small group participation as a professional evaluated by faculty using

the Sequenced Performance Inventory and Reflective Assessment of Learning (SRIPAL) rubric at mid-block and end-of-block

Patient case presentations to peers

Clinical preceptor assessments in which supervising physicians will evaluate selected elements of history, physical, and clinical procedural skills during clinical rotations using checklists and other specifically-designed assessment instruments.

Clinical Skills Assessments – formative and summative experiences

USMLE licensure examinations including clinical skills component of Step 2

Residency placement

Residency Program Director surveys

GOAL 6. Students will become physicians whose actions demonstrate an awareness of and responsiveness to the larger context and system of health care and the ability to effectively call on system resources to provide optimal patient care.

Use of standardized patients

Clinical preceptor assessments in which supervising physicians will evaluate selected elements of history, physical, and clinical procedural skills during clinical rotations using checklists and other specifically-designed assessment instruments.

Patient-centered learning small group participation as a professional evaluated by faculty using the Sequenced Performance Inventory and Reflective Assessment of Learning (SRIPAL) rubric at mid-block and end-of-block

Patient case presentations to peers

Student satisfaction surveys

Clinical Skills Assessments – formative and summative experiences

USMLE licensure examinations including clinical skills component of Step 2

Residency placement

Residency Program Director surveys

PROGRAM EVALUATION AND USE OF DATA FOR IMPROVEMENT

Program effectiveness is assessed by data indicating the level of achievement of students on quantitative and qualitative outcomes measures, including internal and external evaluation instruments. As indicated above, multiple direct and indirect assessment measures are implemented. The Medical Curriculum Committee along with the Office of Medical Education bears responsibility for assessing student learning and evaluation of the program leading to the M.D. degree. The committee is on a regular annual cycle for block and clerkship review. The results of reviews are provided to the Dean, department chairs, and block/clerkship design teams. The Associate Dean for Medical Education provides regular program evaluation reports to the Faculty Academic Council. Identified areas in need of improvement are addressed by the Medical Curriculum Committee and changes are implemented as a part of a continuous improvement process.