The University of Nevada, Las Vegas School of Medicine

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Medical Education Program Highlights
The University of Nevada, Las Vegas (UNLV) School of Medicine was founded in 2014 to help address the region’s chronic physician shortage. The school’s primary mission is to provide a thoughtful, innovative education to students who will practice in Nevada and improve the health of everyone in the state. Major highlights of the school include:

- The relationship between the school and the community. The first 6 weeks of the curriculum include an exposure to population health within Greater Las Vegas. Students are placed in small groups and assigned to underserved neighborhoods in the city. The groups are tasked with performing an assessment of their neighborhood’s history, demographics, physical characteristics, and infrastructure, providing social context to the school’s patient population. Students also participate in 3 years of longitudinal service learning through the Nevada Community Service (NCS) course, which places them in local community service organizations.
- The diversity of the student body. Understanding the cultural aspects of Nevada’s communities is one of UNLV School of Medicine’s guiding principles. As such, the medical school has implemented an admissions process that proactively seeks to assemble classes reflecting the state’s racial, ethnic, geographic, socio-economic, and educational diversity. The results to date have been successful, with each class possessing significant representation from underrepresented and economically disadvantaged groups, and high proportions of first-generation students.
- Curricular emphasis on analysis and critical thinking. The Analytics in Medicine (AIM) course uses an active learning model and covers foundational principles of bioethics, epidemiology and biostatistics, and evidence-based medicine. Problem-based learning (PBL) likewise promotes self-directed inquiry, synthesis, and teamwork. Both courses seek to equip students with transferable skills that can be applied to any medical decision-making process.

Curriculum
Curriculum description
The curriculum is 45 months in duration and has 3 phases: foundations (Phase I, 20 months), clerkship (Phase II, 12 months), and career exploration and scholarship (Phase III, 13 months).

- Phase I consists of an emergency response/population health immersion; 7 sequential integrated organ system courses; and 3 concurrent longitudinal courses that encompass basic clinical skills (Foundations of Clinical Practice), analytics (AIM), and service learning (NCS), respectively. Phase I also provides dedicated time for research, which is a graduation requirement.
- Phase II is designed around a longitudinal integrated clerkship (LIC) model, where students complete their core clerkships simultaneously over the course of 12 months.
- Phase III is comprised of 4-week rotations and provides a breadth of elective experiences and a required community-based medicine clerkship.
- The curriculum ends with a capstone experience that includes tailored clinical skills training.

Curriculum changes since 2010
The UNLV School of Medicine welcomed its charter class in 2017 and has not yet undergone substantive curriculum change or renewal. The class size has remained constant at 60 students per cohort.

Assessment
- The medical educational program objectives were designed using the ACGME domains of competence.
- The majority of Phase I exams are built using the Customized Assessment Service of the NBME. These were initially administered every 2 weeks, but are now progressively spaced out to 3- and 4-week intervals. Cumulative final exams have been instituted at the end of semesters 1 and 2 to promote the longitudinal acquisition of knowledge, and OSCEs are administered to assess student competency in communication and clinical skills through direct observation.

See Table 1—Program Objectives and Assessment Methods.

Pedagogy
- A wide variety of pedagogies are used. PBL is the cornerstone of the Phase I curriculum and is supplemented with a mixture of interactive lecture, case-based learning, team-based learning (TBL), and large-group discussion. Additionally, in the longitudinal AIM course, students learn how to identify answerable clinical questions as well as ethical issues that arise in patient care, where and how to find information relevant to these questions, and self-direct their study to independently think through these issues to guide practice. AIM uses an active learning format in which students have to prepare individually for sessions and identify learning issues for themselves. The clinical skills course uses standardized patients extensively. Ambulatory clinical exposure begins in the first semester, and the clerkship year contains both ambulatory and inpatient experiences.
Table 1
Program Objectives and Assessment Methods

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<th>Medical educational program objective</th>
<th>Assessment methods</th>
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<tr>
<td>1. Apply the principles of anatomy, behavioral science, biochemistry, biostatistics, cell biology, epidemiology, genetics, immunology, microbiology, pathology, pharmacology, and physiology to determine the etiology, pathophysiology, diagnosis, treatment, and prevention of significant human diseases.</td>
<td>NBME, PE, SGF</td>
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<td>2. Identify and propose a treatment plan for acute and chronic diseases.</td>
<td>ACLS/BLS, OSCE, NBME, PE</td>
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<td>3. Demonstrate personal accountability, altruism, humanism, self-awareness, and humility in the care of patients, self, and others.</td>
<td>CE, PE, SGF</td>
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<td>4. Communicate effectively with patients, families, and other health care professionals, including in situations involving communication barriers.</td>
<td>OSCE, PE, SGF</td>
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<td>5. Conduct and document complete and focused medical histories and physical examinations, and recognize confounding factors including age, gender, socio-cultural factors, socio-economic status, family history, and emotional state.</td>
<td>OSCE, PE</td>
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<td>6. Correctly perform basic procedural skills with attention to patient comfort and safety.</td>
<td>PE</td>
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<td>7. Integrate epidemiologic, socio-economic, behavioral, socio-cultural, and community factors into patient care.</td>
<td>OSCE, PE, SGF</td>
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<td>8. Apply knowledge of wellness, nutrition, hospitality principles, pain management, and integrative medicine into patient care.</td>
<td>CE, PE, SGF</td>
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<td>9. Anticipate ethical issues encountered in clinical care and research, explain ethically justifiable options and consequences from multiple perspectives, and manage ethical challenges in medical practice and research.</td>
<td>CE, OSCE, PE, SE, SGF</td>
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<td>10. Provide appropriate patient-centered counseling techniques to improve outcomes and patient satisfaction and to promote optimal use of health care resources.</td>
<td>OSCE, PE</td>
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<td>11. Identify end-of-life care issues, including palliative care, from the perspectives of patient, family, and health care providers.</td>
<td>CE, PE, SGF</td>
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<td>12. Demonstrate advanced clinical reasoning to develop and narrow a differential diagnosis by merging clinical information with knowledge of mechanisms of disease.</td>
<td>CE, OSCE, PE, SGF</td>
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<td>13. Formulate clinical questions and apply evidence-based medicine to provide quality health care to individuals and populations.</td>
<td>CE, PE, SGF</td>
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<td>14. Practice scholarship based on scientific research methods.</td>
<td>CE, SE</td>
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<td>15. Identify the personal skills and systems-level processes that support continuous quality improvement, including patient safety.</td>
<td>CE, OSCE, PE, SGF</td>
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<td>16. Advocate for the improvement of public health outcomes through community engagement and the analysis of social determinants of health and disease.</td>
<td>Capstone, SGF</td>
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<td>17. Discuss the core financial, legal, structural, policy, and regulatory aspects of the U.S. health care system and their impact on delivery of health care.</td>
<td>CE, PE</td>
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Abbreviations: ACLS/BLS, advanced cardiac life support/basic life support; Capstone, project leading to scholarly presentation; CD, course exam; NBME, National Board of Medical Examiners examination; OSCE, objective structured clinical exam; PE, preceptor evaluation; SE, self-evaluation; SGF, small-group faculty evaluation.

- Changes have been minimal to the pedagogical approaches. There is a continuous emphasis on replacing passive learning methods with active ones. There has also been more deliberate incorporation of TBL into the basic science courses.

- The clerkship year is organized using a longitudinal integrated clerkship (LIC) model. The required clerkships are interleaved so that students complete them simultaneously across the entire year. Shelf exams are administered at the midpoint and end of the LIC in addition to OSCEs to uniformly assess student competency across a wide range of clinical skills.

- Students have their first required clinical experiences through the Foundations of Clinical Practice course, which pairs them with local physician preceptors, primarily in outpatient primary care offices, through Phase I. These initial clinical experiences are supplemented with extensive standardized patient encounters throughout the longitudinal Foundations of Clinical Practice course to refine students' physical examination, history taking, and oral presentation skills concurrently.

- Elective community-based rotations are offered by the Veterans Affairs Medical Center (VA Southern Nevada Healthcare...
System) and an affiliated hospital, Sunrise Medical Center. At the VA, students are offered required psychiatry rotations with the Behavioral Health Science Department, as well as a wealth of elective opportunities in acute medicine, anesthesia, cardiology, gastrointestinal medicine, general surgery, geriatrics, gynecology, ophthalmology, orthopedics, nephrology, pain medicine, physical medicine and rehabilitation, palliative care, plastic surgery, pediatrics, pulmonary medicine, radiology, rheumatology, and thoracic surgery. Sunrise Hospital and University Medical Center provide both required and elective rotations in pediatrics and obstetrics–gynecology, particularly gynecologic oncology, neonatal–perinatal medicine, and pediatric critical care medicine.

- Challenges faced in the design and implementation of clinical experiences are consistent with those of many other institutions: limited clinical education training space for students (preceptor recruitment), lack of shared governance when incorporating community physicians and affiliated entities into the context of medical education within the existing health care system, and physicians' underlying focus and administrative pressure to generate revenue to sustain clinical practices. Hence, particularly with the Phase II LIC, attention was focused on continuity in outpatient and inpatient care settings, developing and modifying technology infrastructures to maintain scheduling accuracy, and allocating resources to support administrative and faculty teaching efforts, including student evaluation and overall program assessment. With the next iteration of clinical training, attention is focused on space due to an overlap between Phase II and Phase III clinical requirements and electives.

**Curricular Governance**

- Curricular governance resides with the Curriculum Oversight Committee (COC), which consists of elected and appointed faculty and student representatives. The COC has ultimate authority over curricular matters. The committee contains 4 standing working groups: biomedical sciences, clinical education, community engagement, and LCME compliance. Nonvoting ex officio members are the vice dean for academic affairs and education, the senior associate dean for student affairs and admissions, the associate deans for biomedical science education and community engagement, the assistant deans for curriculum and assessment and clinical education, and the director of educational outcomes and assessment.
- The main budget for instruction, assessment, and academic support is centralized within Academic Affairs and Education. Additional state funds are dispersed to UNLV Medicine departments on a per-faculty basis to subsidize educational activities.

See Figure 1—Curriculum Oversight Committee.

**Figure 1** Curriculum Oversight Committee.

- **Curriculum Oversight Committee COC**
  - 9 elected faculty
  - 6 dean-appointed faculty
  - 2 elected student members
  - 7 ex officio members

- **Approved curriculum changes managed by the assistant dean for curriculum and assessment**

- **Ex officio members available for informational and record-gathering purposes:**
  - Vice dean for academic affairs and education
  - Senior associate dean for student affairs and admissions
  - Associate dean for biomedical science education
  - Associate dean for community engagement
  - Associate dean for clinical education
  - Assistant dean for curriculum and assessment
  - Director of educational outcomes and assessment
Education Staff

- Academic Affairs and Education is charged with the planning, implementation, and administrative oversight of the curriculum. The division is led by the vice dean for academic affairs and education, who reports to the dean of the medical school. There are 4 main subdivisions, each led by a dean: student affairs and admissions, biomedical science education, clinical education, and curriculum and assessment. Their respective functions are further supported by directors of case-based learning, anatomy, educational outcomes and assessment, medical student research, community engagement, student affairs, and admissions, as well as the assistant dean of ultrasound education. Academic support is coordinated by a staff member within Student Affairs. Faculty development is coordinated within Faculty Affairs. This is a separate division that is led by the associate dean for faculty affairs, who reports directly to the dean.

- Clerkship directors, the vice dean for academic affairs and education, the assistant dean for clinical education, and the assistant dean of curriculum meet regularly to develop comprehensive plans and assess the implementation of the longitudinal integrated clerkship (Phase II) and advanced clinical electives (Phase III). The UNLV School of Medicine education program objectives and core clinical competencies form the basis for curriculum development, planning, implementation, and evaluation of where and how clinical experiences measure competencies and meet milestones appropriate to the UNLV School of Medicine curriculum and the LCME. Moreover, clerkship directors meet monthly with the assistant dean for clinical education, assistant dean for curriculum and assessment, and director of educational outcomes and assessment to evaluate student performance for entrustment decisions and identify where academic resources or additional support is needed.

- The purview of Academic Affairs and Education is UME. GME is part of Clinical Affairs, which is a separate division. Pre-UME pipeline programs are coordinated fully or partially by Student Affairs and Admissions.

- The Department of Medical Education provides an academic home for faculty who have substantial roles in education, without primary appointments in other departments, and wish to enhance their academic careers. The key functions of the Department of Medical Education include faculty development, data analysis, assessment, and scholarship.

Faculty Development and Support in Education

- Programmatic faculty development for teaching has been offered through a joint effort by Academic Affairs and Education and Faculty Affairs. The hiring of a dedicated coordinator for faculty development is in process.

- The large majority of faculty are within clinician–educator tracks, which are nontenure. These tracks define, on an individual basis, the role of teaching and educational decisions in promotion, and these activities are evaluated by the department chairs as part of the annual review. The process is similar for the small number of individuals who are tenured or have tenure-track positions.