A New School’s Perspective on Clinical Curriculum


Abstract: The new predoctoral dental education program at the University of Nevada, Las Vegas, officially began on August 26, 2002. Key concepts identified as foundations for the UNLV clinical curriculum model include Student Active Integrated Learning (SAIL), the need to actively link oral health to systemic health, a sophisticated practice management model, a focus on culturally sensitive statewide outreach, establishing a strong biomedical research base, and development of future faculty. The predoctoral program will be comprised of five general practices. Students from each of the four academic years will be assigned to a practice group; each student will be expected to provide patient care within the scope of his or her current training.

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The University of Nevada, Las Vegas School of Dental Medicine came into existence when the key political, academic, and health leaders in the state committed themselves to solving the oral health needs of Nevada. A shortage of dentists in the state, major issues with access for lower socioeconomic groups, and dental manpower distribution issues compelled them to act. The school was charged with graduating socially aware, competent clinical dentists to address the recognized oral health needs in the state.

In support of their commitment, the University of Nevada, Las Vegas purchased an eighteen-acre piece of property adjacent to the University Hospital complex in the city in December 2001. The School of Dental Medicine will be housed in the two primary buildings on this property, occupying approximately 130,000 square feet. The largest building, totaling about 85,000 square feet, will house the primary teaching and clinical facilities. Another 35,000 square feet in an adjacent building will house faculty offices, student facilities, and research space. Renovations are under way to create a state-of-the-art dental education facility. Information will be managed in a paperless environment. The clinical information system will provide an electronic patient record, digital radiographic and photographic image management, electronic financial systems for patient billing and collections, access to treatment information and options at chairside, patient education elements, and user-friendly information access for easy report generation. A contemporary simulation facility will be available for preclinical teaching and also offer unique opportunities for continuing education at the school. With this infrastructure in place, an opportunity now exists to develop a clinical curriculum compatible with the needs of the state, the university, our students, and our patients. This article describes a prototype for our proposed clinical program.

Key Concepts

Several key concepts have been identified as foundations for our clinical curriculum model. They represent processes the institution has identified as necessary for attaining our ultimate program goals. While each is independently credible, they collectively describe an integrated, encompassing model of clinical education that cannot be uniquely separated from other curricular elements. Interdependence of all curriculum components is intentional and necessary.

When asked to characterize our curriculum broadly, faculty describe it as Student Active Integrated Learning or SAIL. SAIL is applicable to all curricular elements at the UNLV School of Dental Medicine. Student-centered active learning has been advocated in education for decades. Through the use
of student-led seminars, small group projects and presentations, school-wide rounds, and integration seminars, students at UNLV-SDM are required to engage their learning experiences in a variety of ways. They not only listen but interact, react, evaluate, and engage material presented by peers and faculty. Their problem-solving skills are honed by requiring them to characterize a problem or question, seek pertinent information, assess its credibility and relevance to the problem at hand, and synthesize reasonable answers to the questions posed.

Our curricular content is uniquely integrated in support of these teaching strategies. The three primary curriculum components are clinical sciences, biosciences, and professional studies. Content is presented in a thematic or systems format rather than a discipline-specific format. For example, we do not have a biochemistry course, but biochemistry occurs throughout the integrated biosciences courses. Curricular content is structured so that an element of each component routinely appears in material from the other two components. For example, a clinical discussion of a TMD case might occur during a bio-science presentation on muscle physiology. This fluidity greatly enhances the ability to integrate curricular content in a meaningful way.

Within the UNLV School of Dental Medicine’s curricular model is the need to actively link oral health to systemic health. The complex interface of medical and dental patient needs requires establishment of intellectual and operational linkages throughout the students’ academic experiences. The biosciences effectively present the foundation knowledge needed for contemporary patient management. The clinical sciences build on this knowledge to enable evidence-based decisions for clinical care. The professional studies elements provide the ethical and medical-legal context for the delivery of this care. With increasing longevity and successful management of chronic disease conditions, oral health practitioners will routinely need to manage medically compromised patients. Understanding the connection between oral health and systemic health within this framework is a professional imperative for today’s clinicians.

A key element in daily operation of the school’s clinical program will be a sophisticated practice management model. The school is committed to preparing graduates for the business of dentistry in addition to developing their clinical acumen. A management model that resembles actual practice, integrated into the daily business of the clinics, will instill in the students the business reality of dentistry.

Recognition of the cultural diversity existing in Nevada is critically important to the success of the School of Dental Medicine. The state is comprised of significant urban and rural areas demonstrating a wide array of ethnic and cultural backgrounds. Las Vegas and Reno represent the two major urban hubs in the state. The numerous remaining communities are spread across a vast geographic area. Hispanic and Native American populations exist throughout the state. Smaller eastern and western European enclaves are also identifiable. Each population and geographic location presents unique dental care problems and opportunities. The School of Dental Medicine’s programs must have a focus on culturally sensitive statewide outreach to achieve the educational and service goals to which we are committed.

The establishment of a strong biomedical research base is an operational necessity for any dental school. Our integrated educational model cannot exist without it. Research provides the foundation for rational inquiry, evidence-based decision-making, and care outcomes assessment. The discovery and dissemination of knowledge are valuable unto themselves. Further, in application in the clinical care setting, it can legitimize treatment recommendations by clarifying biologic mechanisms, demonstrating treatment outcomes with or without professional intervention, and predicting the viability of treatment alternatives based on scientific comparison. Care choices can then be made based on contemporary science not historical anecdote.

Development of future faculty is the final key concept. Dental education is facing expansion of the desired academic content in schools and a contraction of the faculty population to teach it. Opportunities will be presented early in our students’ careers to stimulate their involvement in teaching. It is our belief that schools need to actively nurture potential future faculty. Since students rarely enter dental school with an academic career in mind, faculty must engage them in early identification of this career path and provide hands-on exposures to its rewards and advantages.
Administrative Structure

To facilitate delivery of the integrated curriculum, a unique administrative structure has been developed. The three key parts are the administrative offices, the department chairs, and the specialty program directors. The administrative offices are very similar to other dental schools: a dean, associate deans, directors, and staff. A key difference is in the definition of department chairs.

At UNLV, there are only three departments: Clinical Sciences, Integrated Biosciences, and Professional Studies. No discipline-specific departments exist. All predoctoral clinical faculty will report to the chair of clinical sciences. By virtue of the integrated teaching model, faculty will teach across all three departments as needed. Graduate programs will be developed concomitant with the predoctoral program. Directors of specialty programs will report directly to the dean. In addition to the operation of their specific programs, directors will have a major role in defining the specialty-oriented content of the predoctoral program. As appropriate, their program faculty will support the predoctoral program through direct clinical teaching and management of referrals too complex for predoctoral dental students.

Clinical Program Model

The predoctoral program will be comprised of five general practices when it starts with our first group of students to reach the clinical phase of their education. Each team represents a stand-alone group practice. A team leader will supervise the day-to-day operation of the team. Team leaders will have responsibility for faculty assignments, patient care facilitation, treatment plan oversight, and student progress assessment. The majority of teaching faculty will be generalists, but specialty involvement is both necessary and desirable. During any clinic session, the teaching faculty, generalists and specialists alike, will be supervised by the team leaders and the chair of clinical sciences.

Fifteen students from each of the four academic years will be assigned to each practice group. Each student will be expected to provide patient care within the scope of his or her current training. While each patient will have a primary student provider, referrals will be encouraged within the groups. This will allow inexperienced students access to simpler procedures and free upperclassmen to provide more sophisticated care. Some discipline rotations may be necessary to provide experience in all educational areas, for example, research externships, oral surgery, orthodontics, pediatric dentistry, or community outreach. The group model will allow for greater continuity of patient care with such a fluid curricular model.

The philosophical and operational team model incorporates several important content elements. Evidence-based patient care will be the norm. Through available information technologies, students will have chairside access to patient care information, an extensive reference library, and the Internet. This will enable retrieval of the most up-to-date clinical information. Furthermore, student progress will not be based on numeric expectations. Their experiences will be monitored and managed by patient assignments. A student will not be given another procedure to do but instead will be assigned another patient to treat based on the patient’s health care needs. Performance will instead be based on competency assessments. These assessments will be evaluated by faculty members external to the students’ teams using a blind grading format. This will ensure as unbiased an assessment as possible. Academic progress will be determined by competence, global participation in clinical activity, and an assessment of the students’ management of their practice responsibilities.

One unique element in the clinical program will be the integration of an operational business model. Taking a page from the Capstone projects required in many M.B.A. programs, students will be required to manage their group practices in real-time. They will be allocated a budget with which to operate. Profit and loss statements will be generated monthly for each practice. Reasonable fixed overhead costs will be allocated to each group as well as a pro rata portion of the variable practice costs. Within the constraints of their allocated budget and their productivity, each group will make management decisions for themselves. Faculty mentors will monitor the group decisions for managerial and academic appropriateness. This model creates ongoing, realistic practice management experiences tied to actual clinical care. In addition, the model offers some interesting opportunities for productivity and management competition between the practices.
Ultimate Program Goals

The definition of ultimate program goals is as important for a new school as it is for an established institution. As the UNLV School of Dental Medicine continues to grow, we will continually seek achievement of the following goals:

• Graduate competent general dentists to serve the state of Nevada,

• Provide clinical care to those unable to access care elsewhere,

• Graduate dentists committed to their professional responsibilities,

• Provide a flexible curriculum allowing students an array of educational options, and

• Encourage graduates to pursue academic and research careers.

These goals, in turn, support the vision of the school: Toward Perfect Health Through Oral Health.