

# Differences and Similarities in the Practice of Medicine Between Australia and the United States of America: Challenges and Opportunities for The University of Queensland and the Ochsner Clinical School

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## ABSTRACT

**Background:** In 2008, The University of Queensland (UQ) in Australia and the Ochsner Health System (OHS) in Louisiana entered into a partnership that will allow a cohort of United States (US) citizens to enroll in an Australian medical degree program in which students will study for their first 2 years of medical school in Brisbane, Australia, and then complete the final 2 years of clinical education at OHS in New Orleans. The program's goal is to create graduates eligible to practice in Australia, New Zealand, and/or the US.

**Methods:** We reviewed the UQ School of Medicine–established Ochsner Clinical School (OCS) and the translation of the UQ clinical curriculum to the US.

**Results:** The curriculum presented both challenges and opportunities, revealing the similarities and differences in the practice of medicine between Australia and the US. This paper highlights some of them, in terms of the healthcare systems, the health professional workforce, and medical education. For example, the healthcare system and medical school curriculum in Australia have a strong focus on primary care.

**Conclusions:** This new model in education may help train more primary care physicians for the US, providing physicians with a

unique global perspective to face the future challenges of medical practice.

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## INTRODUCTION

The University of Queensland (UQ) School of Medicine established the Ochsner Clinical School (OCS) as its 9th clinical school in 2009. The partnership between UQ and the Ochsner Health System (OHS) is developing a model of global medical education in which students undergo the first 2 years of medical school in Australia and then complete the clinical component of their medical degree at OHS in the United States (US). In 2009, the initial cohort began their medical studies in Brisbane and traditional UQ medical students began clinical rotations at OCS.

The program transplants the Australian clinical curriculum into Louisiana to provide future doctors with a global experience. The aim is to expose students to different cultures and different healthcare delivery systems to produce physicians uniquely positioned to practice medicine and innovate in both countries.

Developing the OCS has identified similarities and differences between the practices of medicine in Australia and the US. This article examines them from several aspects. In the early stages of this project, we found that similarities outnumbered differences. Basic medical principles apply regardless of where one practices: The doctor-patient relationship is valued, and professionalism is the bedrock for patient care. However, differences do exist, and we delineate some of them here: systems of care, professional roles, medical practice, and medical education. The OCS medical curriculum will use these differences as points of discussion to help students understand healthcare delivery in different settings.

## DIFFERENCES IN THE SYSTEMS OF HEALTHCARE

Both the Australian and US healthcare systems are complex, with varied models of care and practice.

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The Australian healthcare system is underpinned by Medibank, implemented in 1984.<sup>1</sup> Medibank is a universal health insurance system that provides for medical treatment in public hospitals and subsidizes care in the community by providing a rebate for medical consultations and clinical investigations. Major metropolitan areas have a very large private healthcare system, with approximately 40% of the population also holding private health insurance. Private health insurance consumers have the choice of using a private hospital for procedures, the choice of their doctor, and a shorter wait for healthcare procedures.<sup>2</sup>

Australian healthcare funding is complex, with contributions coming from both the federal and state governments, health insurance companies, and individual out-of-pocket contributions. As in the US, the country is challenged with trying to reform and improve the efficiency of the system, requiring the cooperation of all stakeholders.

Likewise, the US has a wide range of healthcare systems that vary among states, with most healthcare funded by some sort of health insurance plan, either privately or government sponsored. The US government developed the Medicare and Medicaid programs in 1965 to provide healthcare to citizens aged 65 or older and to lower income patients, respectively. Medicaid is jointly funded by the federal government and individual states; therefore, patient coverage differs from state to state. Louisiana operates a charity hospital system to provide care to all citizens regardless of ability to pay. The federal Patient Protection and Affordable Care Act enacted in 2010 aims to increase the number of Americans covered by insurance from 83% today to 95% once fully implemented in 2014.<sup>3</sup>

OHS is a large multispecialty group practice that has integrated an academic multihospital system. It has many of the features of an Australian public hospital system, with its emphasis on quality practices and safety coupled with the efficiency of a private practice funding model. Ochsner's group practice model emphasizes a patient-centered approach to quality care, transparency, patient satisfaction, and access to care, allowing patients to have same-day appointments with their primary care physician and working those who arrive late into the schedule for the day. Internal and external metrics monitor care quality and are reported publicly.

Although OHS is a private healthcare system, education and research are key parts of its mission. Ochsner has 27 graduate medical education programs and provides clinical placements for both Tulane University and Louisiana State University medical students. The system is best described as a

hybrid of the private and public hospital systems in Australia. In the UQ and OHS systems, incorporating students into clinical care as members of the team is an essential element of medical education. This ensures that medical practitioners develop clinical skills under supervision, producing doctors readily able to practice medicine in either the US or Australia. Partnering with an innovative private health system such as Ochsner is opportune for UQ: The Australian government has mandated partnerships with private and public health providers that will further develop the capacity of the Australian health system to train its future workforce.

## DIFFERENCES IN PROFESSIONAL ROLES

The Australian healthcare system recognizes the general practitioner as the manager of a patient's overall healthcare. In Australia, the general practitioner directs referrals to specialists. Because patients in the US generally have the right to self-refer to a specialist, the US system has no real equivalent to the Australian general practitioner. A range of specialists provides primary care in the US, including family practice, obstetrics and gynecology, pediatrics, and general internal medicine. Within large healthcare delivery systems, primary care physicians coordinate the patient's medical care in a similar way to general practice physicians in Australia. However, just as in Australia, physicians' scope of practice varies widely depending on their practice structure (small group vs healthcare system), location (urban vs rural), and patient population. Although the US has a different system, the range of clinical conditions, their presentation, and their management are remarkably similar, with different doctors assuming different components of the role fulfilled by the Australian general practitioner.

In the US, the past 15 years have seen an increasing separation of roles between hospitalists and primary care doctors who work in outpatient settings. In both adult and pediatric wards, hospitalists increasingly manage the care of inpatients and direct referrals to subspecialists. They operate similarly to general physicians or general pediatricians in Australian teaching hospitals. The demarcation in roles has achieved efficiencies in the US healthcare system.<sup>4</sup> Meanwhile, Australian medical specialists have both hospital and outpatient consulting responsibilities, although medical administrators there have considered a future movement toward this sort of role delineation.

Another difference between the two systems is the organization of medical practice offices. In the US, each doctor usually has a consulting suite that includes 3-4 examining rooms and is well supported by nurse practitioners, physician assistants, and

**Table 1. Current Differences in Immunization Schedules Between the United States and Australia<sup>7,8</sup>**

United States	Australia
DTPa booster @ 15-18 months and 4 years	No booster until 4 years
PCV booster after 12 months for all	PCV booster for high risk only after 12 months
MMR and varicella @ same visit	MMR @ 12 months; varicella @ 18 months
Menactra @ 11 years	MenCC @ 12 months
No BCG for high risk	BCG for high-risk Aboriginal and Torres Strait Islanders

DTPa: diphtheria, tetanus, and pertussis; PCV: pneumococcal vaccine; MMR: measles, mumps, and rubella; MenCC: meningococcal serogroup C conjugate; BCG: bacille Calmette-Guerin (tuberculosis vaccine).

clerical staff. All support the doctor and allow the clinic staff to schedule more patients than if the doctor were working alone. Additionally, this structure lends itself to student involvement in ambulatory settings. By contrast, in Australia, the doctor usually has only 1 examination room where patients are seen.

Despite this clear advantage in providing students with outpatient experience, the undergraduate medical education system in the US has underutilized this type of clinical placement, with the vast majority occurring in the inpatient hospital environment. Experts speculate that the diminished role of the primary care ambulatory curriculum in US medical schools may contribute to the very low number of trainees who subsequently choose a career in primary care, resulting in workforce shortages.<sup>5</sup>

On the other hand, an advantage of the UQ clinical curriculum is that students receive a minimum of 6 months' exposure to primary healthcare in both urban and rural settings. One desired outcome for the UQ-OHS program is that primary healthcare will become as popular a choice for the American graduates as it currently is for Australian UQ graduates, 23% of whom choose general practice.<sup>6</sup> In both systems, new doctors must understand that they will be part of a team of health professionals. Exposure to OHS's coordinated care model will prepare both the regular UQ medical students and the Ochsner cohort for a team-based approach to healthcare.

### DIFFERENCES IN CLINICAL MANAGEMENT

Pediatricians in the United States are considered primary care physicians and provide the majority of primary and specialized care to children; in Australia, pediatricians are viewed as consultants, and general practitioners provide the majority of primary care to children. Pediatrics in the US emphasizes well-child visits where developmental milestones and general healthcare are regularly assessed by the pediatrician. In Australia, aside from immunization consultations and a developmental assessment at 4 years of age, neither the family general practitioner nor the pediatrician completes what US doctors would consider well-child

visits. The US system appears to afford pediatricians the opportunity to practice more preventive health consultations than the Australian system. Despite these varying approaches, pediatric clinical management remains very similar, with some differences regarding vaccination schedules (Table 1).<sup>7,8</sup>

One example of differences in clinical management involves patterns of antibiotic resistance among common pathogens such as streptococcal and staphylococcal infections, which lead to different antibiotic choices in Louisiana.<sup>9,10</sup> Another example is the slightly different recommended screening guidelines for some of the common cancers in adults (Table 2).<sup>11,12</sup>

At OHS, a team led by a consultant psychiatrist, usually supported by clinical psychologists and social workers, usually manages mental health problems. Such an approach, although relatively common in the public sector in Australia, is not the norm for private practice. At medical schools in the US, neurology, neurological imaging, and psychiatry frequently are taught together as a component of mental health education. Although the subject is taught differently in most Australian medical schools, the link between neurology and psychiatry is evident in clinical practice there.

In obstetric labor wards in Australia, midwives provide clinical care. Particularly in the public sector, midwives are responsible for the management and delivery of normal labor and spontaneous vaginal delivery. In the Australian clinical setting, midwives also deliver much of the practical teaching in the labor ward. In the Ochsner system, resident house staff provide bedside care in the labor ward.

In Australia, especially in rural areas, general practitioners perform basic surgical procedures. Therefore, the medical school curriculum emphasizes surgical principles and provides 12 weeks of mandatory training. In addition, all medical school graduates must undergo 2 years of internship in which they will obtain more surgical training.

### DIFFERENCES IN MEDICAL EDUCATION

Traditionally, in Australia the bulk of clinical undergraduate medical education occurs in public

**Table 2. Differences in the Recommended Cancer Screening Guidelines Between the United States and Australia<sup>11,12</sup>**

	United States	Australia
<b>Colon Cancer</b>	Starting at age 50: flex sig every 5 years or barium enema every 5 years or colonoscopy every 10 years or CT colonography every 5 years or FOBT yearly	FOBT every 2 years at age 50, or flex sig every 5 years at age 50
<b>Breast Cancer</b>	Yearly mammogram at age 40; CBE every 3 years from ages 20-40, every year after age 40	
<b>Cervical Cancer</b>	Cervical cancer screening beginning at age 21 every 2 years: may decrease to every 3 years at age 30 if 3 normal tests in a row	Every 2 years, starting 1 or 2 years after intercourse or at ages 18-20, whichever is later

Flex sig: flexible sigmoidoscopy; CT: computed tomography; FOBT: fecal occult blood test; CBE: clinical breast examination.

teaching hospitals, but the past 2 decades have seen a shift to community-based medical education, led by the development of the academic discipline of general practice,<sup>13</sup> including the development of rural clinical schools.<sup>14</sup> With undergraduate medical education expanding over the past 10 years, the private sector is increasingly seen as essential in delivering undergraduate and graduate clinical training. Before OCS was established, the UQ School of Medicine had 7 domestic clinical schools in public teaching hospitals and 1 in a private hospital. In addition, more than 200 urban and rural community-based general practices host students for their clinical training.

Three major structural differences between the US and Australian medical education systems exist. First, in US medical schools, students must pass national examinations (United States Medical Licensing Examinations [USMLEs]) to progress into the clinical years, graduate, and obtain a medical license. USMLE Step 1—administered at the end of the preclinical training—documents a fundamental knowledge base of the science behind medical practice. Following Step 1 passage, students in their final year complete the USMLE Step 2 Clinical Knowledge and USMLE Step 2 Clinical Skills examinations, prerequisites for graduation from most medical schools and acceptance into a residency program. These national examinations are conducted outside the student’s medical school.

In Australia, the student’s medical school administers undergraduate examinations. At UQ, the end-of-course Multi-Skills Assessment Test is remarkably similar in structure, content, and format to the USMLE Step 2 Clinical Skills. A rigorous accreditation process supervised by the Australian Medical Council maintains the standards of medical education, although there has been debate about whether the country should develop a national examination system similar

to that in North America, a format that has recently become accepted practice in Europe.

Despite the current lack of a national examination system in Australia, the structure of medical education shares many aspects with that of the US. In the US, medical schools are graduate entry, and the standard length of program is 4 years. In Australia, 7 of 19 medical schools are graduate entry, representing approximately 50% of available domestic student places. Each school adapts its clinical programs depending on the availability of clinical training options. UQ has a 4-year graduate entry program, with 2 years of integrated clinical sciences education followed by 2 years of clinical placements. In both countries, the structure of clinical placements mandates core experience in medicine, surgery, pediatrics, obstetrics, psychiatry, and primary care, although how a particular medical school organizes its clinical placements differs. UQ offers an array of clinical training opportunities in Australia, and the addition of OCS allows the medical school to offer comprehensive clinical training on both continents.

The second difference is that in the US a medical school or the university either owns or is a significant partner with a teaching hospital. The medical staff of the school itself are involved in direct patient care as part of their university-funded academic appointment. This is not the case in Australia: Universities do not own or operate healthcare facilities. University-appointed academic medical staff there usually have a right of private practice as part of their appointment, allowing them to continue clinical practice in either private or public settings. In Australia, the medical school usually holds partnership or affiliate agreements with hospitals and negotiates the resources the hospital needs to provide clinical training. Although OHS is not a university, as a clinical partner it is able to incorporate teaching and research as required duties of clinical units where students are placed.

**Table 3. Summary of Similarities and Differences in Healthcare Between the United States and Australia**

	United States	Australia
<b>Health Insurance Coverage</b>	Private insurance with a significant population covered by Medicare, Medicaid, and Veterans Administration	Government healthcare coverage with an option for private insurance
<b>Medical Practice</b>	Many different specialties provide primary care  Pediatricians and internists provide primary care	General practitioners provide all primary care  Pediatricians and internists are considered specialists
<b>Medical Education</b>	Hospitalists USMLE Most medical schools are 4-year graduate programs 4th year much less structured curriculum with multiple electives Assessment focused on MCQ examinations Specialty choice during 4th year of medical school	No hospitalists No national standardized test Most medical schools are 4-year graduate programs More structured curriculum with an emphasis on primary care Assessment focused on OSCEs Specialty choice after completing 2 years of general training after medical school

USMLE: United States Medical Licensing Examination; OSCE: Objective Structured Clinical Examination; MCQ: Multiple Choice Questions.

The organization of postgraduate medical education is the third difference. In Australia, for 2 generic years after graduation, junior doctors are expected to complete further training in a full range of clinical disciplines. Formal specialty postgraduate training does not commence until the third postgraduate year. A typical specialty program ranges from 3 to 6 or more years in length, with general practitioners usually taking at least 5 years after graduation before practicing independently. Most specialists take 8 to 10 years of training prior to commencing independent clinical practice.

In the US, students commence their internship in specialties training programs upon graduation from medical school. This impacts how students approach the clinical years of medical school. The third year at medical school is seen as an important time when students are exposed to the core rotations of medicine, surgery, psychiatry, obstetrics, pediatrics, and primary care, which enables students to make a decision about which field of medicine they would like to practice in the future. In the final year, a typical US medical school will offer several elective clinical rotations during which students are able to gain additional experience in fields where they may wish to specialize. They can also gain additional education and skills that they feel will help them in their chosen career path. The US National Residency Matching Program is a highly competitive process, and students must perform well in their student workplace-based assessments to achieve strong references that will increase their chance of obtaining the residency of their choice.

This is in contrast to the Australian system, where acceptance into an intern position is guaranteed for domestic graduates and specialties are not chosen until the middle of the second postgraduate year. An internship in Australia involves further training in internal medicine, general practice, surgery, and emergency medicine. Second-year postgraduates will often aim to complete more of the year in their chosen field, but students in the Australian system commonly do not commit to a postgraduate training program until many years after graduation. This means that students often complete core clinical rotations in the final year of medical school, often translating to less clinical elective time.

## CHALLENGES AND OPPORTUNITIES

The OHS-UQ partnership positions the school to be a leader in medical education reform. Areas of proposed improvement in medical education—such as providing more opportunities for learners to experience broader professional roles, incorporating interprofessional education and teamwork, and engaging learners in quality improvement and patient safety—are some of the ongoing foci of the curriculum. Although clear differences between the healthcare systems, practice of medicine, and medical education exist, as summarized in Table 3, these 3 areas provide opportunities to improve healthcare in both countries. Slight differences in medical practice are evident but can be adapted to the curriculum for opportunities to discuss evidence-based medicine. This is key to the OHS-UQ partnership, as one of its goals is to educate physicians who can develop innovative solutions to healthcare's future

challenges by exposing medical students and physicians to different approaches to clinical problems. From a curriculum standpoint, assuring consistency in material and assessment while still allowing flexibility for innovation and local practice across great distance and different time zones is challenging. However, technological toolkits such as Blackboard (Blackboard Inc., Washington, DC), online modules, voiceover PowerPoint (Microsoft Corp., Redmond, WA), and Skype (Skype Technologies S.A., Luxembourg, Luxembourg) have helped bridge the distance. One early example of the opportunities for the partnership is the creation of a faculty development program at OCS. UQ's expertise in pedagogy was combined with Ochsner's experience in medical education and quality improvement to design online education modules to improve faculty development throughout all the UQ clinical schools. Although it is still early in the implementation process, busy clinical educators have demonstrated great enthusiasm for this approach. The OHS-UQ partnership offers a unique opportunity for clinicians and academics from the 2 countries to work together, learn from each other, and train a new generation of physicians with a more comprehensive background to face the future challenges of healthcare.

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