

## Affiliation of West Virginia University (WVU) School of Medicine with the Oman Medical College (OMC)

David J. Smith, Ph.D.  
 Professor of Pharmacology  
 Assoc. Chair for Education, Physiology and Pharmacology

James M. Shumway, Ph.D.  
 Associate Dean for Medical Education  
 Professor of Internal Medicine and Pediatrics

West Virginia University School of Medicine



## Oman Geographically

- Sultanate of Oman is in the Gulf region of the Middle East on the eastern side of the Arabian peninsula
- It is a small country (about the size of Kansas) with three million people



Countries of the Gulf Region include Oman (red arrow), Saudi Arabia, Kuwait, Qatar, UAE, and Bahrain



## Diversity of Speech, Ethnicity and Religion in Oman

- Arabic is the official language of the country although English is also taught in schools
  - Some also speak Baluchi, Urdu or Indian dialects
- Ethnic Diversity with Arab, Baluchi, African and a large Southeastern Asian Population
  - Southeastern Asia includes India, Pakistan, Sri Lanka, Bangladesh representing a large portion of the laborers
- Most (75%) Omanis are Ibadi Muslim some are Sunni or Shia
  - Other Religions are represented including Judaism, Protestant & Catholic particularly among expatriates



## Beginning of Modernization of Oman


- In 1970, HM Sultan Qaboos bin Said Al Said deposed his father and using petroleum revenues, began to lead Oman from a country with nomadic tribes to a modern one
  - New schools in every village
  - Roads
  - Industrial development (e.g. Port of Sohar)
    - \* Natural gas, oil, aluminum & copper
  - Tourism
  - Building the infrastructure to meet the health care needs
- Ultimately, the plan includes Omanization - educating Omani citizens to replace expatriate workers



A modern home of a wealthy Omani family sits beside the ruins of a fort used by tribes to protect their land. The tower is made from mud bricks.



## Indicators of Rapid Growth

Indicator	1970	2009
<b>Public Schools government supported</b>	3 and for boys only 	1047 for boys and girls Mandatory to Grade 12 Government supported Sultan Qaboos University with Medical School
<b>Private Schools</b>	0	200+ schools exist including: • Elementary/Intermediate schools • Technical, vocational schools • Colleges including OMC
<b>Paved Roads</b>	8 miles	27,200 miles
<b>Hospitals</b>	2 Hospital with only 12 beds 22 Health Centers	60 Hospitals (9 are private) 5619 beds 217 Health Centers & 817 Private Clinics



## Health Care Growth

- In 1970 - 13 medical doctors in Oman for a population of 658,000
  - (50,000 people per medical doctor)
  - No doctor was an Omani national
- Then, following the directive from His Majesty Sultan Qaboos to improve health care and education, significant growth began
- In 2009 - the number of practicing medical doctors in Oman increased to approx. 5,563
  - 23% were Omani nationals
  - 560 people/medical doctor as population rose to 2 ½ M
  - WHO ranked Oman highly for its comprehensive health care in the year 2000



## Impact Indicators on Health

- Life Expectancy of Men

1970	2009
49.3 years	72.7 years

- 5 years-of-age Mortality Rate per 1,000 live births

1970	2009
181	12

## Why Was Oman Medical College Established?

- A recognized need for additional Omani physicians provided the major motivating force for establishing OMC in the year 2000
  - Need to increase the education opportunities beyond what was available via Sultan Qaboos University. SQU is the sole public university and only other medical school in Oman
  - Essentially doubling the number of medical school graduates from about 100 to 200 per year
- OMC also provides training for pharmacy students
- The vision was to provide a US style education taught in English

## Oman Medical College (OMC)

<http://omc.edu.om>

- A private co-educational school offering degree programs in:
  - Medicine (Doctor of Medicine, MD)
  - Pharmacy (Bachelor of Pharmacy, BPharm)
 Students receive their degrees from OMC
- Programs approved & monitored by the Ministry of Higher Education and recognized by the Ministry of Health of the Sultanate of Oman
- Two Campuses for Medical Education
  - Baushar (*aka Bowsher*) Campus which is in the capital city of Muscat
    - Premedical training
  - Sohar Campus located in Sohar which is 2 hrs northwest of Muscat
    - Medical Basic Sciences and Clinical training

## Baushar Campus

- OMC Baushar
  - Located in the capital city of Muscat
- Courses for *premedical education*
  - It is the site for a *foundation year* for premedical and pharmacy students with extensive emphasis on English language skills
  - Followed by *2 years of premedical training* in Sciences
- All training for the pharmacy program



Main College Building in Baushar

## Sohar Campus

- OMC Sohar
  - Located in Sohar 2 hrs northwest of Baushar
  - It is the site for medical basic sciences in the 4<sup>th</sup> & 5<sup>th</sup> years
  - Clinical training occurs in years 6 & 7 at two locations
    - Sohar Regional Teaching Hospital which is adjacent to the college
    - Rustaq Regional Hospital about 1.5 hrs from Sohar
  - Reason for two locations is to provide adequate student to patient ratio
  - Rustaq requires a new hostel and teaching facilities and clinical faculty which are in development



Main College Building in Sohar

## How Was OMC Established?

- Several businessmen, who had profited from infrastructure building in the Sultanate, felt that providing improved medical education would be a significant way to "pay back Oman" for their good fortune
- A colleague of theirs in the US, with ties to WVU, discussed the venture with the Dean and Vice President of WVU-HSC to enlist our guidance
- An *affiliation agreement* between OMC and WVU was entered as a result of the negotiations

## The Affiliation Agreement

- WVU Schools of Medicine and Pharmacy formed an advisory and consulting academic affiliation with OMC
- WVU provides curricular support
  - Senior leadership (e.g. the Dean at the Baushar campus of OMC)
  - Visiting WVU School of Medicine instructional faculty (e.g. Course director for pharmacology course)
  - Teaching Materials
  - Information Technology support and access to our online instructional technology resources
  - Anatomical materials
  - WVU conducts audit reviews every 2 years that are shared with MOH & the Governing Council for evaluation and implementation
  - Senior leadership from WVU also serve on the OMC governing council

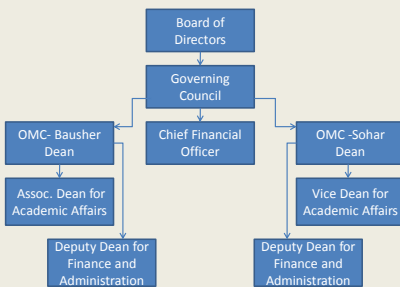


## Governance

- Prominent businessmen formed the school and are the owners, three of whom currently serve as the Board of Directors. The Board formed a Governing Council to manage all affairs other than financial and legal
- Governing Council is the principal executive body of OMC responsible for general supervision and direction of the college
  - Members of the Council include senior leadership from WVU, Deans (Ex-officio) of the two campuses & others (approximately 10 members)
  - Chairman is also a Director of the Board
  - Delegates authority to the Deans (OMC-Sohar, Dr. Saleh Al Khusaiby; OMC-Bausher, Dr. Diana Beattie) and CFO for academic, financial, estate & personnel management
  - Meets quarterly and receives reports from Deans and CFO who also meet monthly with the Chairman



## OMC Governance Structure



## Oversight

- Ministry of Higher Education has oversight responsibilities for OMC, in relation to the college's primary role for higher education to students in Oman
  - Conducts annual site visits using experts from Ministry of Health and SQU with reports generating responses from the Deans
  - Reports and responses reviewed by the governing council
- Ministry of Health (MOH) also has oversight responsibilities because of OMC's role for providing health care services
  - Promoted the formation of a Joint OMC-Sohar Regional Hospital Board to ensure a close liaison between OMC and the teaching hospital and coordination of OMC's clinical teaching
  - Dean of OMC-Sohar was seconded to the College by the Ministry of Health and meets regularly with MOH



## Opportunities for the Future of OMC

- Supportive businessmen
  - Provide financial resources to support well conceived educational plans and infrastructure
  - Guidance for the growth of the College
- Supportive government
  - Provide tuition (full or partial) to Omani students, plus a monthly living stipend
  - Recognize & promote OMC's mission to provide health care providers for the citizens of the Sultanate
  - Oversight of the Ministry of Health and the Ministry of Higher Education
- State of the art facilities
  - Colleges at Baushar and Sohar are well equipped and are in various stages of planned growth
  - Hospitals for clinical training; Sohar Regional Teaching Hospital and Rustaq Regional Hospital (in transition)



## Challenges for the Future of OMC



## Challenge One – Cultural Differences

- An aim of US medical education is to train students as critical thinkers with life long learning skills
  - Omani students enter training with limited independence & self directed learning skills due to their cultural background
  - Many have inadequate English language skills which put them at a disadvantage in a curriculum taught in English
  - Co-educational approaches used in the US are difficult in their culture
    - Independent housing
    - Men must gain their practical experience in Ob-Gyn in a different country



## Challenge Two – Faculty Development

- Development of a stable faculty with a US style and approach to the education of medical students
  - WVU faculty who organized and taught in the early stages of curricular development are to be replaced by resident faculty
    - Many of the current new faculty are on leave from parent institutions in Southeast Asia
    - Turnover is high, since for many, their intent is to return to their home institution
- The educational philosophy of faculty from countries of the region is often unlike the US style for medical education
  - Generally, less concerned with critical thinking and a greater reliance on “knowing” and recall of the current aspects of medicine
  - The expectation in this part of the world is that critical thinking skills will be developed during the post-graduate learning opportunities
  - A concern that student “failure” may reflect on the competency of the faculty rather than students’ motivation and ability
    - Some students may require meaningful remediation or dismissal
- Exam “item” preparation needs to be improved so that the students’ ability to use their knowledge to solve problems and to think critically is assessed



## Transitions Aimed at Overcoming the Challenges



## Transition One – Cultural Changes

- Continue to focus on improving English language skills
- Increase emphasis on Critical Thinking Skills
  - Increased utilization WVU’s Secure Online Learning Environment (SOLE) with its access to educational resources (e.g. Pub Med, FDA, Clinical Pharmacology) & opportunity for online course materials and lectures
  - MCQ’s focused on problem solving scenarios and data analysis
  - Moving the curriculum from a block structure to an integrated one
    - Initiated in 2010 in the 5<sup>th</sup> year curriculum prior to years 6 & 7 where clinical training occurs and critical thinking are necessary
    - Plans in progress for integration of the 4<sup>th</sup> year curriculum
  - At Baushar Campus, the premedical curriculum is beginning to focus more on critical thinking and problem solving
    - PBL exercises
    - MCQ’s with problem solving style



## Transition Two – Faculty Development

- Providing an environment to attract and retain permanent resident faculty
  - Hiring practices and compensation focused on permanent faculty
  - Promoting opportunities for research
    - Omani government grants
- Utilizing WVU faculty to assume a greater role in training the educators that are hired from the region in US style educational approaches
  - Guide curriculum development
    - Integration of the curriculum
  - WVU faculty focusing on guidance of new faculty rather than teaching the students
    - Fostering classroom teaching of life-long learning skills
    - Promoting the use of problem solving approaches for student assessments



## Transition Three - Consolidating Preclinical Medical Training

- Accommodating all of the medical training through the basic science years at the Sohar campus
  - Aiming to improve the overall guidance and coordination of the medical curriculum
  - Upgrading the facilities to meet the demands of changes
    - Classrooms and laboratories
    - Computer facilities
    - Hostels – separate ones for boys and girls within the college grounds where computer resources are available



### Some of the Successes # 1

- Students in the 5<sup>th</sup> year practicing critical thinking and problem-solving skills
- They are using “state of the art” online resources (SOLE) to diagnose and define treatment options in a clinical scenario of acetaminophen toxicity in a child



### Some of the Successes # 2

- A faculty member using *audience response technology* in the classroom
- The classroom easily accommodates 100 students
- Wireless connections allow access to online course materials and other resources



### Some of the Successes # 3

- WVU instructor working with 4th year students taking Neurobiology
- An Interactive Brain Atlas is being used in the anatomy laboratory to reinforce students learning from wet brain specimens



### Some of the Successes # 4

- White Coat Ceremony performed at the end of preclinical training
- Deans Saleh, Cather, Beattie and Hemming preside at the ceremony



### First Graduation Class 2008

