



A New Bachelor's Degree Program in Health Information Management in United Arab Emirates: Curriculum Content Based on New Development Approaches

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Abstract

UAE government is in the process of moving from manual management systems in the health sector to electronic medical record and health information management systems. All hospitals, clinics, doctor's offices, pharmacies and health insurance companies are in transition period. Such a transition creates a huge demand for graduates in the field of HIM. To fill this need, The Emirates College of Technology (ECT) in Abu Dhabi developed a new 4-year program in health applied Sciences major in Health Information Management (HIM). The curriculum was developed by a thorough needs assessment of UAE health sector considering the recommendations of the American Health Information Association (AHIMA) and (AHIMA) foundation, which assist in the adoption and refinement of a global Health Information Management (HIM) curriculum. International benchmarking suggests that our program as a whole is comparable. The comparability of the program structure, course contents, and level of credit will meet the highest standards for academic quality in any health institutions. We designed 4 years comprehensive HIM bachelor's program curriculum by taking the local context and stakeholder needs as primary priority. We commenced the program in September 2015. In conclusion, the program demonstrates that the curriculum meets the course contents as required by CAHIIM accredits baccalaureate degree programs in health information management. The HIM course contents are in accordance with the standards of the international requirements for accreditations (AHIMA). The program meets a true need in the UAE healthcare industry.

Keywords: UAE; ECT; Curriculum development; HIM; AHIMA; CAHIIM; Healthcare industry; Global health workforce.

Introduction

Health information management is chiefly concerned with organizing and managing patient data contained in the medical record. HIM professionals are often responsible for coding health information for proper reimbursement or research as well as ensuring compliance with governmental regulations regarding patient data. Healthcare

organizations are becoming increasingly reliant upon information and communication technology to support the daily clinical routine. Training knowledgeable, motivated and capable Healthcare Information Technology (HIT) staff is essential for overcoming the bottle necks to achieve national and global goals in quality of healthcare services and health data [1-3]. In the health information management strategic plan of UAE, enhancing health management information systems through computer-based information systems is kept as a priority task in the health sector policy until 2020 [4]. The United Arab Emirates are facing a shortage of healthcare workers at the same time they are tackling the need to advance their health technologies and data management infrastructure [5]. The Khalifa Medical city projects that if the demand of Abu Dhabi 2030 vision is to be met, the UAE needs HIM professionals who are aware of the complex health care processes and who can manage, plan, develop and provide expert consultations to the healthcare sector. Use of electronic health records, by all types of healthcare providers, should lead to an increased need for HIM professionals to organize and manage the associated information in all areas of the healthcare industries [6].

The ECT was founded in 1993 as Emirates Institute of Technology. It was licensed by the CAA in 2003 and adopted its present name in 2004. The college presently has four faculty namely faculty of business, faculty of media, faculty of engineering, and faculty of medical and health sciences. About 70% of the students are UAE nationals. ECT has a new campus (Baniyas Tower), in central Abu Dhabi the capital of UAE. Now ECT offers many new programs in engineering and health sciences [7].

Emirates College of Technology (ECT) has developed the HIM program intends to fill a need for a rising demand in UAE's market for bachelor's degree holders in health sciences with major in HIM to fill this gap, the ECT one of the pioneering researches, teaching and community service oriented higher education institutions in UAE through its unique programs designed a health information management bachelor's degree program.

The main goals of the program are as follows: [7]

1. Enhance students' awareness of societal values, integrity at work and excellence in Healthcare sector
2. Prepare students to evolve in a cross-functional, team-based work environment
3. Equip students with multidisciplinary competencies to meet the requirements of the healthcare sector.
4. Prepare students to serve in middle management positions in public and private healthcare sectors.
5. Prepare students for HIMA international certifications.
6. Equip students with the knowledge and skills required for developing wide health record systems

Therefore, the aim of this program is to train students who can handle the current pressing needs of health information professionals. This bachelor program is the first of its kind in Gulf countries and Middle East. The proposed HIM program represents an additional step in ECT's strategy to extend its activities to offering four year bachelor's degrees in different fields according to the needs of UAE.

The mission of the bachelor of applied health sciences is to provide students with a range of knowledge, skills and competencies that will

prepare them to meet the requirements of the health care sector, The assessment made by IRQA in 2013 specified that the country would need more HIM professionals by 2030 to meet the HIM professional's requirement of the healthcare sector [6]. The scope this study covers is GCC, UAE in general and Abu Dhabi Emirate in particular. It discusses the status and prospects of general economic development process and situation, population growth, and labor force projections in these areas. The demand for bachelor's degree holders in health information management is projected for the coming years in these areas using secondary and primary data. To satisfy this need, the khalifa medical city projects that if the demand of Abu Dhabi 2030 vision is to be met, Higher education institutions must offer such programs from now, the HIM training program should get started. Our bachelor program is therefore believed to give an opportunity for certain, benefit the following stakeholders in the UAE in general and in Abu Dhabi Emirate in Particular:

1. High school graduates,
2. 2-year diploma students both nationals and non-nationals, in Abu Dhabi Emirate in particular and other UAE Emirates.
3. Employers who seek well qualified individuals in the area of technology management with major in HIM in Abu Dhabi Emirate and other UAE Emirates.
4. The health sector in UAE.

The purpose of this paper is therefore, to introduce the curriculum development, content and its current progress to the international health information community and make it available to other countries wanting to introduce health information bachelor programs.

Methods

The curriculum development process took two years (2013-2015). The approach used for the development was through assessment of UAE health sector needs and review of the current health information management education in the world. The needs assessment for the curriculum was conducted in 2013. In the assessment, national and regional health offices and health science colleges were included. Data were collected through interviews and observations within those offices and the higher colleges that already run the diploma program. We assessed their way of work in health data management and the extent of health information management professionals needs. In addition, were viewed the curriculum of different USA and international bachelors level health information management programs.

Moreover, the AAC the Commission for Academic Accreditation's (CAA's) evaluation recommendation [8] was used as a basic reference for course allocation. Internal and external evaluators analyzed the draft curriculum in two different workshops conducted in 2013. Internal evaluators were medical, public health, management and computer science staff of the college. The evaluators worked on the integration of biomedical, healthcare, management and computer science courses. External evaluators were experts from the dimension healthcare [9], regional health non-governmental organization working in the health information sector. These groups analyzed the needed graduate competencies in the work places of their respective organizations. After including the comments, the final version was being amended according to the ministry of higher education and scientific research. The college reviewed and revised all course syllabi to ensure that course content and course assessments are in alignment

with the appropriate level of the Emirates. As one element of this review, the college examined the course learning outcomes identified for each subject. The response to commission for academic accreditation bachelor of applied health sciences major in Health Information Management (HIM) application for initial accreditation was finalized by program director of health and medical sciences with assistant of IRQA and approved by the dean, president and Charmin of trustees before submitted in 22 April 2014 [8].

Result

We developed a 4 years comprehensive health information management bachelor's program curriculum by taking the local context and stakeholder needs as primary priority. We commenced the program in September 2015. The contents of the curriculum and the (planned) practical and lecture lessons are explained below year by year and listed with the specific course titles, corresponding credit hours and prerequisite in the respective Table 1-4.

III.A. First year of study

The first year of study aims to introduce the science of general requirements such as Introduction to information technology skills, mathematics, and communication skills in Arabic, Business calculus, accounting and provision of solid theoretical basis required for the next four years of study. HIM careers may also require familiarity with medical terminology, human biology and basic anatomy and physiology. The first-year courses result in 38 Cr hours

Year 1	ENG 100	English I	3	BUS 100	Business Organization and Management	3
	MTH 100	College Mathematics	3	ENG 104	English II	3
	BMD 200	Medical Terminology	3	GEN 100	Communication Skills in Arabic	3
	BIT 100	Introduction to Information Technology Skills	3	BMD 201	Human Anatomy and Physiology I	3
	GEN 102	Islamic Culture	3	MTH 103	Business Calculus	3
	GEN 306	Human Biology	3	ACC106	Accounting	3
		Total	18			18

Table 1: Courses in the first year of study.

III.B

The second year of study is aimed to give more detailed knowledge about the human anatomy and physiology and of the overall introduction to human resource management, introduction to health information management, health communication skills, introduction to economics, general psychology. The second semester focuses on healthcare economics, introduction to financial management, data communication and networking biostatistics for health sciences, pathophysiology and database management system. In those courses, the students are expected to understand the system development process and start to develop own database systems in practice lessons using basic computer, data communication, biostatistics and financial management. The second-year courses result in 36 Cr hs.

Year 2	HRM 201	Introduction to Human Resource Management	3	BMD 205	Pathophysiology	3
	ENG 205	Health Communication Skills	3	BMD 203	Biostatistics for Health Sciences	3
	HSC201	Introduction to Health Information Management	3	BIT 413	Data Communication and Networking	3
	GEN 201	General Psychology	3	BAF 301	Introduction to Financial Management	3
	BMD 202	Human Anatomy and Physiology II	3	BIT 305	Database Management System	3
	ECO 203	Introduction to Economics	3	HSC203	Healthcare Economics	3
		Total	18		Total	18

Table 2: Courses in the second year of study.

III.C. Third year of study

The third year of study is aimed at giving advanced knowledge and practice in health Information System, Operations Management, Human Health and Disease, medical coding, and Legal and Ethical Aspects in Health Sciences. The students continue to followed medical coding, healthcare institutions management, pharmacology such as health care database management, as well as database management system and information security.

Year 3	HIM 305	Management of Health Information Systems	3			
	HIM 302	Medical Coding I	3	HIM 303	Medical Coding II	3
	BUS 309	Operations Management	3	HSC202	Healthcare Institutions Management	3
	HIM 206	Human Health and Disease	3	BMD 207	Pharmacology	3
	GEN 303	Sociology	3	HIM 306	Health Data Concepts	3
	GEN 308	Legal and Ethical Aspects in Health Sciences	3	BIT 430	Information Security	3
	Total	18		Total	15	

Table 3: Courses in the third year of study.

III.D. Fourth Year of Study

The fourth year of study, with a total of 27 Cr hours, is exclusively planned for practical work of the students. The students will learn advanced level courses such as leadership, code information for reimbursement, organize and manage patient data, and they are assigned for internships in different health care organizations

Year 4	HIM 415	Graduation Project in HIM	3	HIM 415	Graduation Project in HIM	3
	HIM 407	Health Promotion and Disease Prevention	3	BUS 413	Leadership	3
	HIM 401	Reimbursement and Revenue Cycle	3	HIM 419	Internship in Health care Establishment	3

	Manag ement				
HIM 404	Health Care Deliver y Syste ms	3	HIM 403	Quality Manag ement in Health care	3
BMD 307	Epid emiolog y	3			
	Total	15		Total	12

Table 4: Courses of the fourth year of study.

After completing this program, students should be able to [7]:

1. Identify the core concepts in health environment & society
2. Acquire the knowledge & skills to make ethical decisions based on an understanding of the societal values.
3. Demonstrate the knowledge in the biomedical sciences required to manage healthcare sector.
4. Apply general principles of Management & Economics in the administration of healthcare services.
5. Employ IT skills and tools to effectively manage healthcare operations.
6. Implement and manage applications and processes for clinical classification and coding.
7. Effectively manage the health data and documentation in line with quality management principles
8. Manage healthcare processes in accordance with the UAE's healthcare delivery systems.
9. Develop, evaluate and select applications and processes of reimbursement systems in healthcare delivery.

Discussion and conclusion

Healthcare is among the priority sectors identified by the UAE government as a result, the UAE healthcare industry has displayed extraordinary growth and significant progress in the past few years. The government's focus on healthcare is aimed not only at diversifying the oil-reliant economy but also at developing unprecedented healthcare infrastructure to ensure that adequate services are provided in the Emirates [10]. This program is equipping the Health Information Management (HIM) Workforce through establishment of educational standards and curricula to meet future needs. The curriculum was developed by a thorough needs assessment and considering the recommendations of the American Health Information Association (AHIMA) [11], which assist in the adoption and refinement of a global Health Information Management (HIM) curriculum [12], The curriculum was designed by benchmarking different international programs [13] and the recommendations of the American Health Information Association (AHIMA), The credit points for biomedical sciences related to health information management are higher in our curriculum than those benchmarked programs given that our expectation is to graduate students with a solid understanding of the country's health system management as

well with advanced healthcare project management and technical skills. Those bachelor graduates are expected to play a key role in professional and management position at referral hospitals, health insurance and regional health offices given the need of the complex data and infrastructure management in those offices and medical sites. The availability of other related disciplines such as- accounting, business administration, and computer science department in our college is an ample opportunity to effectively run the departments academic and research activity. However, lack of senior staffs (with PhD degree) in the area of medical coding is still the biggest challenge for our college. Indeed, our program of the Health Information Management (HIM) provides services in all aspects of records management –including data collection and data quality management, integrity, standards, disclosure, coding, disposition, and privacy of health information. The third and fourth years of study, with a total of 60 Cr hours, is exclusively planned for practical work of the students. The students will learn advanced level courses such as leadership, code information for reimbursement, organize and manage patient data, two semester graduate project and they are assigned for internships in different health care organizations. During the internship students are expected to develop, maintain and manage graduation projects in different areas of health information management with close supervision of their advisers. Therefore, the graduates of HIM perform detailed analysis of the health information to facilitate health care delivery, patient safety and decision support. They play a role in ensuring the confidentiality of health information within the patient information and are advocates of the patient's right to private, secure and confidential information. HIM professionals are essential in quality programs, and provide guidance on documentation, communication, eHealth implementation, EHR infrastructure, and policy issues [14]. The emphasis given by the government by creating a career leader in the health sector for future graduates of the department is an indicator of the emphasis given by the ministry to the program. But the department need to interact and work more with the ministry of health and health regional offices so that the various academic and research activities are in line with the E-health policy of the UAE country.

The graduates of this multidisciplinary health information management curriculum expected to be well prepared professionals for management and technical positions, being able to meet the increasing demand of health information management professionals in the country. As the program is just starting, we will continuously evaluate it against the changing need of the country and the student's graduate profile. Additionally, we will work with the health authorities in UAE and AHIMA.

Emirates College of Technology (ECT) has an MOU with the American Health Information Management Association (AHIMA) and the AHIMA Foundation under which ECT is the authorized center for AHIMA to deliver international professional training and certification in the Gulf region. The AHIMA Foundation and AHIMA's Global Health Workforce Council (GHWC) was cooperating with ECT to offer a training program focused on the global standard HIM curriculum developed by AHIMA.

Indeed, the training program supported university and college faculty, and managers of organizations in the areas of HIM or Health Informatics. The training program hosted by Emirates College of Technology at its campus in Abu Dhabi, UAE. The date of the training program was October 23-26, 2015.

References

1. World Health Organization (2010) Classifying health workers. Geneva: WHO.
2. Tour L, Kathleen M, Maki, Shirley E (2010) Health information management concepts, principles and practice. Chicago, Illinois: American Health Information Management Association.
3. Stansfield S (2005) Structuring information and incentives to improve health. Bulletin of the World Health Organization 83: 562.
4. Health Systems Profile- UAE Regional Health Systems Observatory- EMRO.
<http://www.ahima.org/uae/abouthim>
- 5.
6. The U.S.-U.A.E. Business Council
7. <https://ect.ac.ae/>
8. Commission for Academic Accreditation (CAA)
9. Dimension Healthcare
10. Scope of Vision 2021 for health in UAE
11. 2014 AHIMA Health Information Management Curricula Competencies
12. <https://ifhima.org/global-health-information-curricula-competencies/>
13. CAHIIM Health Information Management Standards, HIM Standards for the Associate and Baccalaureate Level
14. eHealth Strategy for NSW Health 2016-2026