Journal of Health Informatics and Management

Research article

Unique Interdisciplinary Bachelor's Degree Program in Health Information Management in United Arab Emirates (UAE)

Abdulrahim Abu Jayyab*

Department of Medical and Health Sciences, Emirates College of Technology, United Arab Emirates.

*Corresponding author: Abdulrahim Abu ayyab, Department of Medical and Health Sciences, Emirates College of Technology, United Arab Emirates. E-Mail: abdulrahim.abujayyab@ect.ac.ae

Abstract

The UAE government is in the process of moving from manual management systems to electronic medical records and Health Information Management (HIM) systems in the field of health. All hospitals, clinics, offices of the doctors, pharmacies, and health insurance companies are in the transition period. Such a transition will certainly create huge demand for HIM graduates. In the fulfillment of this need, the Emirates College of Technology (ECT) in Abu Dhabi has developed four years bachelor's degree program in applied health science, namely bachelor of applied health science in health information management (BAHS-HIM). In this regard, the college has firstly conducted the needs assessment in the UAE health sector to develop an ample program plan based on the American Health Information Association (AHIMA) and (AHIMA) Foundation recommendations. These recommendations will not only assist the refinement but also in the adoption of the global health information management curriculum. We also benchmark our program with available international programs and observed the contents are comparable. The comparability of BAHS-HIM structure, course contents, and level of credit will ascertain the highest standards of academic quality in any health institution. The program curriculum was developed as per the requirements of UAE and this will program will equip the students with the latest technology skills and will prepare them as per the demands of all the stakeholders. This program was initially launched in 2015.

In conclusion, the program has demonstrated an effective curriculum that meets the standards of CAHIIM accreditation of baccalaureate degree programs in HIM. The course contents are in accordance with the standards of the international requirements for accreditations (AHIMA). The Program meets a true need of the UAE healthcare industry.

Keywords: UAE; ECT; Curriculum development; HIM; AHIMA; CAHIIM; Healthcare industry; Global Health Workforce.

Introduction

The educational reforms will always remain a focus for the policymakers of the UAE government, Though the sector is already geared up to grow and is already exhibiting excellent opportunities to all the stakeholders, still, the field is facing certain challenges [1, 2].

The need to be aligned correctly between the courses offered at other education institutions to the industry requirements especially in the healthcare industry. The healthcare sector in the UAE is significantly expanding, and job opportunities in the healthcare industry are increasing by more than 14 percent per year. This estimate is more important since jobs related to the expansion of the healthcare industry will increase by 34.5 percent worldwide until 2020 (Khaleej Times 2012. This will lead to increased demand in skill-intensive areas such as HIM and Healthcare Informatics (HI) [3]. As of most students across the GCC prefers subjects such as the social sciences and arts. The entire leaders in the HIM sector must acquire the education and experience, especially in the medical records management, coding & billing and the knowledge in Information Technology (IT) [4].

These courses of HIM need biomedical courses such as the medical terminology, pharmacology, and basic anatomy and physiology. Increased attention also needs to be given towards research and innovation at education institutions [5, 6]. The Khalifa Medical city projects that if the demand for Abu Dhabi 2030 vision is to be met, the UAE needs HIM. The 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 [7].

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 [8].

Emirates College of Technology (ECT) has developed the HIM program intends to fill a need for rising demand in UAE's market for bachelor's degree holders in health sciences with a 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: (8)

1. Enhance students' awareness of societal values, integrity at work and excellence in the 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 provide our students with the background necessary for understanding the role of health information professionals. This bachelor program is considering the first of its kind in gulf countries and the Middle East. The proposed HIM program represents an additional step in ECT's strategy to extend

its activities to offer four-year bachelor's degrees in different fields according to the needs of the UAE.

The BAHS mission is unique and handy because of knowledge, skills and competencies provision to the students that will equip them to meet with the healthcare sector requirements. 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 [8]. The scope of this study covers is GCC, UAE in general and Abu Dhabi Emirate in particular. It discusses the status and prospects of the 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. In order to justify this requirement, the khalifa medical city projects that if the demand for 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 HIM degree program is consequently supposed to provide the prospect for certain, benefit the following UAE investors in general and to Abu Dhabi Emirate:

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.

Therefore, this paper aims to acquaint with development of curriculum and contents and its advancement in the health information community internationally. This will also be an available asset for other interested countries, who are in a race of developing bachelor programs in this context.

Methods

It took almost two years for the process of curriculum development starting from 2013. The development approaches used was the need assessment of health sector of UAE and the educational review of the health information management throughout the world. In 2013, the curriculum needs assessment was completed where the main finding resources were the regional and national health offices and colleges of health sciences. All the information was gathered through the interviews and through the office annotations, also the colleges were observed and benchmarked for their existing health diploma programs. We examine the working approaches to the health data management systems (HDMS) and the degree to which the HDMS identify their health professional requirements. Furthermore, we also benchmarked our program with the international available bachelor curriculums of HIM like in the USA.

Moreover, as per the Commission for Academic Accreditation's (CAA's) evaluation recommendation [9] we base them as reference for all the courses allocation. All the evaluators i.e. Internal and external, at first analyzed the HIM curriculum draft while they were invited in two different workshops in the year of 2013. All the internal evaluators were the professional staff belonging to various health, public health, medical, computer science and the management sectors of the college. In details these evaluators worked for the major courses

belonging to the biomedical healthcare computer science and the management. For external evaluation we request the Dimension healthcare [10] professionals to evaluate the program's future graduate competencies. This organization specifically worked for the health information field. Once all the comments were received, the final version of the program draft was revised as per the ministry of education and requirements. All the revisions were assured by the college in terms of course syllabi, course contents and tools of their assessment regarding the proper emirates alignment levels. As one element of this review, the college examined the course learning outcomes identified for each subject. The response to CAA the BAHS-HIM program's application for its initial accreditation was finalized by the dean, who is also the program director of health and medical sciences with assistant of IRQA and approved by the provost, president and charmin of trustees before its submission in 22 april 2014 [9].

Result

The program was initiated in 2015 and the program curriculum constitutes four years of time span which is comprehensive and as per the stakeholder needs and as per the local UAE context. More on the program curriculum contents and lessons i.e. practical or lectures is well explained below on yearly basis. In additions the course titles along with credit hours and the course prerequisite were also given below in tables starting from one to table four.

2.1 First Year of Study

This year with the aim of science of general requirements introduction like introduction to the IT skills, mathematics, and communication skills in arabic, business calculus, accounting as well as this year will provide a strong theoretical basis for the remaining of study years. The careers of the BAHS-HIM might have the requirement for the medical terminology understanding, the familiarity with the biology, anatomy and the physiology of human body. The first-year courses result in 38 Cr hours.

Semester I		Cr/H	PR	Semester II		Cr/H	PR
ENG 100	English I	3	-	BUS 100	Introduction to Management	3	-
MTH 100	College Mathematics	3	-	ENG 104	English II	3	ENG 100
BMD 200	Medical Terminology	3	-	GEN 201	General Psychology	3	ENG 100
BIT 100	Introduction to Information	3	-	BMD 201	Human Anatomy and Physi	3	GEN 306

						Cr/H	PR
	Technology Skills				ology I		
							BMD 200
GEN 102	Islamic Culture	3	-	MTH 103	Business Calculus	3	MTH 100
GEN 306	Human Biology	3	-	ACC 106	Accounting	3	MTH 100
		18				18	

Table 1: Courses in initial study

2.2 Second Year of Study

The study second year is mainly aiming to provide broader and in-depth knowledge of the anatomy and physiology of human along with the Human Recourse Management (HRM) introduction, The introduction to HIM, health communication skills, introduction to economics, general psychology. The 2nd semester emphases the healthcare economics, introduction to financial management, data communication and networking biostatistics for health sciences, pathophysiology, and database management system. The a fore mentioned courses will equip the students with the system development process understandings and the concepts of database system development via basic computer skills, other learnings included with mainly communication, biostatistics and the financial management. The second-year courses result in 36 Cr Hrs.

Semester I		Cr/H	PR	Semester II		Cr/H	PR
HRM 201	Introduction to Human Resource Management	3	BUS 100	BMD 205	Pathophysiology	3	BMD 202
ENG 205	Health Communication Skills	3	ENG 104	BMD 203	Biostatistics for Health Sciences	3	MTH 100
HSC 201	Introduction to Health Information Mana	3	BIT 100	BIT 413	Data Communication and Networking	3	MTH 103

Semester I		Cr/H	PR	Semester II		Cr/H	PR
	gement						
GEN 302	Fundamental of Innovation	3	BUS100	BAF 301	Introduction to Financial Management	3	BIT 100
BMD 202	Human Anatomy and Physiology II	3	-	BIT 305	Database Management System	3	HSC 201
ECO 203	Introduction to Economy	3	BMD 201	HSC 202	Healthcare Institutions Management	3	ACC 106
		18				18	

Table 2: Courses in the second year of study

2.3. Third Year of Study

This year is aiming with the advanced knowledge and practices provision in health Information Systems (HIS), operations management, human health and disease, medical coding, and legal and ethical aspects in health sciences. The students continue to follow the medical coding, healthcare institutions management, pharmacology, also the Database Management System (DMS) and information security.

Semester I		Cr/H	PR	Semester II		Cr/H	PR
HIM 305	Management of Health Information Systems	3	HSC 201	HIM 302	Medical Coding I	3	BMD 205
BMD 207	Pharmacology	3	BMD 205	HSC 203	Healthcare Economics	3	ECO 203
BUS 309	Operations Management	3	BMD 203/ BUS100/HSC 201	HIM 407	Health Promotion and Prevention	3	HIM 206

HIM 206	Human Health and Disease	3	BMD 205	HIM 306	Health Data Concepts	3	HSC 201
GEN 303	Sociology	3	ENG 100	BIT 430	Information Security	3	BIT305/BIT 413/
GEN 308	Legal and Ethical Aspects in Health Sciences	3	ENG 205				
		18				18	

Table 3: Courses in the third year of study

2.4 Fourth Year of Study

This constitute a total of 27 Cr hours, which are solely planned for the student practical works. In this phase all the BAHS-HIM students will acquire the advanced level of the courses like the leadership, code information for reimbursement, organize and manage patient data, in addition to this student will also practice the internships in various UAE health care setups.

Year 4	HIM 415	Graduation Project in HIM	3	Complete 99 Cr/H	HIM 415	Graduation Project in HIM	3	Complete 99 Cr/H
	HIM 303	Medical Coding II	3	HIM 302	BUS 413	Reimbursement and Revenue Cycle Management	3	HIM 303/ECO 203/BAF 301
	BUS 413	Leadership	3	BUS 100	HIM 419	Internship in Healthcare Establishment	3	Complete 99 Cr/H
					HSC 202			

HIM 404	Health Care Delivery Systems	3	HSC 202	HIM 403	Quality M Quality Management in Healthcare	3	HIM 306/BMD 203/BUS 309
				HIM 305			
BMD 307	Epidemiology	3	HSC 202				
	Total	15			Total	12	

Table 4: Courses of the fourth year of study

After completing this program, students should be able to [9]:

1. Classify the vital notions of the health environment & society

2. Gain the knowledge & skills in making the ethical decisions which will be based on the societal values understanding.

3. Validate the biomedical sciences knowledge that is needed in healthcare management.

4. Smear the Management & Economics general principles in the healthcare services management.

5. Deploy the skills and tools related to the IT in healthcare operations management effectively.

6. Contrivance the applications and processes management in the clinical classifications and the coding.

7. Manage the health data efficiently and to document all the principles of the quality management systems (QMS).

8. Accomplish the healthcare processes in accordance with the UAE's healthcare delivery systems.

9. Advance, gauge and select the reimbursement systems applications and processes in the healthcare provisions.

Discussion

One of the leading priorities for the government of UAE is healthcare as for the recent past years this industry has flourished extraordinary. The switch of the oil-based economy to the other major sectors like healthcare exhibits the government's intentions to the diversification of GDP. This stimulates the development of extraordinary healthcare infrastructure vis adequate healthcare services provision in Emirates. [3, 11] following the zeal the BAHS-HIM program will train the graduates in accordance with the established education standard and the curricula that will meet the future needs efficiently. The development of the curriculum was based on the needs assessment and through the American Health Information Association (AHIMA) recommendations. [5, 6] This not only assisting the refinement of the global HIM curriculum [5, 6] but also in the adoption process. The design of the curriculum was based on the available international programs benchmarking. We prioritize and elevated the credit points for the courses related to the biomedical sciences in the field of HIM than those observed through the

international benchmarks. We expected that the ECT graduates will have strong understanding and knowledge of the healthcare information management system in the country as well as in the unconventional healthcare project management and other related methodological skills. Also, these graduates will play a vital role in the healthcare setup, health insurance, and the government health offices especially the professional and managerial positions. 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. Nevertheless, the lack of senior staff (Ph.D. degree holders) in the medical coding field is still the biggest challenge for the college. Undeniably, our BAHS-HIM program will provide the services in all the aspects of Records Management (RM) that constitute the collection, quality management, integrity, standards, disclosure, coding, disposition, and privacy of health information data. The last two years of this bachelor study comprising a total of 60 Cr hours, is solely prearranged for practical work. 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 all the BAHS-HIM students are likely to progress, maintain and manage the graduation projects at stand-alone or in groups in various health information management areas in close supervision of their respective advisers. Consequently, the HIM graduates will be able to perform a thorough analysis of the health data in order to facilitate the health care provisions, patient safety, and decision sustenance. They will also ensure their role in the confidentiality of health data and will advocates the patient's privacy rights. Therefore, the professionals of HIM are vital in all the quality programs and will provide documentation and communication guidance and the implementations of the eHealth infrastructure, the EHR infrastructure, and related policy issues [12]. The present Government emphasizes to generate career leaders especially in the healthcare sector for the future [13]. Our mission for this program is fully aligned with government emphases. In this regard, the college faculty must strongly peruse and work with the health ministry and Governmental health offices in the region to make sure the E-health policy in all its academic and research practices in the country.

The graduates of this multidisciplinary HIM curriculum are expected to be well-prepared professionals for vital technical and management positions, and for being able to meet the snowballing demand of HIM professionals in UAE. Since the program has just initiated, we will uninterruptedly evaluate itself contrary to all the changing needs of the country and the student's graduate profiles.

Moreover, we will closely work with the UAE health authorities and the authorities of AHIM.

The ECT has signed an MOU with the AHIMA and 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.

Conclusion

The program has demonstrated an effective curriculum that meets the standards of CAHIIM accreditation of baccalaureate degree programs in HIM. The course contents are in accordance with the standards of the international requirements for accreditations (AHIMA). The Program meets a true need of the UAE healthcare industry.

References

1. Kamal K(2018) Education in the United Arab, World Education News Reviews (WENR)
2. Warner R, Burton G (2016) The current state of education in the UAE, Public Policy Forum
3. U.S, U.A.E. Business Council, U.A.E. Healthcare Sector
4. Evans RS (2016) Electronic Health Records: Then, Now, and in the Future, S48.
5. 5. HIM 2014 Curriculum Requirements.
6. Academic Curricula Competencies, CAHIIM Health Information Management Standards.
7. Health Systems Profile- UAE Regional Health Systems Observatory- EMRO.
8. Emirates College of Technology.
9. Commission for Academic Accreditation's (CAA), UAE.
10. Dimension Healthcare.
11. Scope of Vision 2021 for health in UAE.
12. eHealth Strategy for NSW Health 2016-2026.
13. UAE National Innovation Strategy, The Prime Minister's Office at the UAE Ministry of Cabinet Affairs 2015.