



PCC Proposal to Establish a Post-Baccalaureate Certificate in Leading and Managing Healthcare Transformation (Senate Document #17-18-10)

TO Wallace D. Loh | President

FROM Daniel Falvey | Chair, University Senate

I am pleased to forward the accompanying legislation for your consideration and approval. Dylan Roby, Chair of the Programs, Curricula, & Courses (PCC) Committee, presented the PCC Proposal to Establish a Post-Baccalaureate Certificate in Leading and Managing Healthcare Transformation (Senate Document #17-18-10), which the University Senate approved at its meeting on October 5, 2017. Please inform the Senate of your decision and any administrative action related to your conclusion.

Approved:

Date:

October 6, 2017

Wallace D. Loh
President

Copies of this approval and the accompanying legislation will be forwarded to:

- Mary Ann Rankin**, Senior Vice President and Provost
- Reka Montfort**, Executive Secretary and Director, University Senate
- Michael Poterala**, Vice President and General Counsel
- Cynthia Hale**, Associate Vice President for Finance and Personnel
- John Bertot**, Associate Provost for Faculty Affairs
- Elizabeth Beise**, Associate Provost for Academic Planning & Programs
- Sylvia B. Andrews**, Academic Affairs
- Dylan Roby**, Chair, PCC Committee
- Alexander Triantis**, Dean, Smith School of Business
- Michael Faulkender**, Associate Dean of Masters Programs, Smith School of Business
- Michael Marcellino**, Assistant Dean of MBA & MS Programs, Smith School of Business



Establish a Post-Baccalaureate Certificate in Leading and Managing Healthcare Transformation (PCC ID #16067)

PRESENTED BY Dylan Roby, Chair

REVIEW DATES SEC – September 19, 2017 | SENATE – October 5, 2017

VOTING METHOD In a single vote

RELEVANT POLICY/DOCUMENT N/A

NECESSARY APPROVALS Senate, President, Chancellor, and Maryland Higher Education Commission

ISSUE

The Robert H. Smith School of Business proposes to establish a 12-credit Post-Baccalaureate Certificate in Leading and Managing Healthcare Transformation. In 2015, total spending on healthcare reached a staggering \$3 trillion. Yet, despite extraordinary expenditure, the US healthcare system suffers from significant deficiencies with respect to both healthcare quality and cost. The healthcare sector is exceedingly volatile. As landmark legislation such as the Affordable Care Act of 2010 has fundamentally altered the healthcare landscape, policy makers and executives are increasingly concerned about the quality and cost of health care delivery. The health care industry is constantly coping with change, from the rise of pay-for-performance reimbursement practices to the evolving nature of the consumer market. Against this backdrop of transformational change, healthcare executives, administrators, and providers need a new set of knowledge, skills, and competencies to develop strategies and practices that will aid them in successfully navigating the constantly changing healthcare landscape.

The curriculum will consist of four three-credit courses for a total of 12 credits. The four core courses are as follows (course numbers pending):

- Healthcare Operations Management and Marketing
- Health Informatics and Information Technologies
- Current Topics in Healthcare Transformation
- Health Economics and Financing

From these courses, students will understand key principles and their applications for healthcare strategy development and policy-making. Students will demonstrate proficiency in formulating appropriate healthcare leadership plans, and they will develop their knowledge of healthcare information systems and data analytics.

This proposal was approved by the Graduate School Programs, Curricula, and Courses committee on April 28, 2017, and was approved by the Senate Programs, Curricula, and Courses committee on September 1, 2017.

RECOMMENDATION(S)

The Senate Committee on Programs, Curricula, and Courses recommends that the Senate approve this new certificate program.

COMMITTEE WORK

The committee considered this proposal at its meeting on September 1, 2017. Michael Faulkender, Associate Dean of Master's Programs from the Robert H. Smith School of Business, presented the proposal. The proposal was approved by the committee.

ALTERNATIVES

The Senate could decline to approve this new certificate program. If the Senate declines to approve this certificate program, the university will lose an opportunity to provide specialized training in leading and managing healthcare transformation for students who do not wish to enroll in a full Master's program in order to receive this training.

RISKS

There are no risks to the University.

FINANCIAL IMPLICATIONS

There are no significant financial implications with this proposal as the courses and administrative processes already exist through Robert H. Smith School of Business master's programs.

University of Maryland PCC
Program/Curriculum/Unit Proposal

PCC Log No: 16067

Program: Certificate in Leading and Managing Healthcare Transformation

Department/Unit:

College/School: Robert H. Smith School of Business

Proposal Contact Person (with email):

Type of Action (check one):

- Curriculum change (includes modifying minors, concentrations/specializations and creating informal specializations)
 - Curriculum change is for an LEP Program
- Rename a program or formal Area of Concentration
- Establish/Discontinue a formal Area of Concentration
- Other:
- Establish a new academic degree/certificate program
- Create an online version of an existing program
- Establish a new minor
- Suspend/Discontinue a degree/certificate program
- Establish a new Master or Certificate of Professional Studies program
- New Professional Studies program will be administered by Office of Extended Studies

Italics indicate that the proposal must be presented to the full University Senate for consideration.

Approval Signatures - Please print name, sign, and date. For proposals requiring multiple unit approvals, please use additional cover sheet(s).

1. Department Committee Chair _____
2. Department Chair Ritu Agarwal Ritu Agarwal / Michael Fu
3. College/School PCC Chair Michael Faulkender M Faulkender
4. Dean Alexander J. Triantis AJ Triantis
5. Dean of the Graduate School (if required) Jerry Frank J Frank 5/22/2017
6. Chair, Senate PCC Dylan Roby Dylan Roby 9/1/17
7. University Senate Chair (if required) _____
8. Senior Vice President and Provost _____

Instructions:

When approved by the dean of the college or school, please send the proposal and signed form to the Office of the Associate Provost for Academic Planning and Programs, 1119 Main Administration Building, Campus-5031, and email the proposal document as an MSWord attachment to pcc-submissions@umd.edu.

Summary of Proposed Action (use additional sheet if necessary):

This program is intended for executives and clinicians in the healthcare industry who are seeking to advance their understanding of healthcare transformation. The program consists of a set of four courses taught by leading faculty from the Smith School of Business and includes guest speakers from major healthcare organizations. Upon completion, the participants will receive a Post-Baccalaureate Certificate in Leading and Managing Healthcare Transformation from the University of Maryland. Completers will also have the option of transferring these credits toward a Masters in Information Systems (MSIS), a Master in Business Analytics (MSBA) or Master of Business Administration (MBA). A total of thirty percent of the total credits taken towards the Master degree may be double counted towards both the certificate and the Master degree. A student enrolled in the MBA program can count all twelve of the certificate course credits towards the MBA degree. Only one certificate program can be double counted towards a Master degree. Certificate course credits cannot be counted towards the completion of another certificate program. The program will be offered on the UMCP campus, at our DC location, our Baltimore facility, or our facility at the Universities of Shady Grove. Classes will be held in the late afternoon or evening to accommodate the schedules of our working professional students.

Unit Code(s) (to be entered by the Office of Academic Planning and Programs):

PROPOSAL FOR
NEW ACADEMIC PROGRAM

UNIVERSITY OF MARYLAND AT COLLEGE PARK, MARYLAND
POST-BACCALAUREATE CERTIFICATE:
LEADING AND MANAGING HEALTHCARE TRANSFORMATION

ROBERT H. SMITH SCHOOL OF BUSINESS

DEAN **Alexander Triantis**

CERTIFICATE IN LEADING AND MANAGING HEALTHCARE TRANSFORMATION

Proposed Initiation Date: Fall 2017

I. OVERVIEW AND RATIONALE

The health of citizens is, arguably, a crucial concern for public policy in nations across the globe, and constitutes a significant proportion of government spending. In the United States, healthcare is the largest sector of the economy, projected to account for 20% of GDP in 2024, the highest among all OECD nations. In 2015, total spending on healthcare reached a staggering \$3 trillion. Yet, despite extraordinary expenditure, the US healthcare system suffers from significant deficiencies with respect to both healthcare quality and cost.

Today, in acknowledgement of the challenges confronting it, the US healthcare system is in the midst of transformational change. Several environmental triggers have contributed to this change. In the past decade, a series of important landmark legislations such as the Affordable Care Act of 2010 and the HITECH Act of 2009 have fundamentally altered the nature of competition and the use of technology in the healthcare sector. Simultaneously, policy makers and executives are increasingly concerned about the quality and safety of healthcare delivery, as well as the unsustainable rise in costs. Changes in reimbursement practices for health service delivery from a fee-for-service model to one focused on pay-for-performance is placing increasing pressure on hospitals and other care delivery organizations to recraft their business models and practices. The nature of the consumer market is also witnessing substantial change. As the US population ages, there is a pressing need to use cost-effective methods for the management of chronic conditions such as diabetes and hypertension. Healthcare consumers today are better informed about costs and value, driven in part by the growing national emphasis on transparency. Finally, there is acknowledgement that patient engagement in healthcare is critical to realize the envisioned goals of higher quality and lower costs.

Against this backdrop of transformational change, healthcare executives, administrators, and providers need a new set of knowledge, skills, and competencies to develop strategies and practices that will aid them in successfully navigating the volatile healthcare landscape. This program is intended for executives and clinicians in the healthcare industry who are seeking to advance their understanding of healthcare transformation.

II. Nature of the Program

The program consists of a set of four courses taught by leading faculty from the Smith School of Business and includes guest speakers from major healthcare organizations. Participants in the program will:

- Learn about the regulatory and policy environment of healthcare in the US
- Gain knowledge about the supply and demand dynamics of US healthcare
- Understand healthcare financing and the changing nature of the health insurance market
- Gain an understanding of the core processes of healthcare delivery
- Become familiar with tools for optimizing healthcare processes
- Learn about marketing healthcare services
- Understand the new healthcare consumer and how to enhance patient engagement
- Learn about the digital transformation of healthcare and associated technologies
- Understand the value and applications of health data analytics

- Develop skills in leading and managing change in healthcare organizations
- Learn best practices for creating and leading high performance teams
- Understand new health delivery practice changes such as accountable care organizations

Upon completion, the participants will receive a Post-Baccalaureate Certificate in Leading and Managing Healthcare Transformation from the University of Maryland. Completers will also have the option of transferring these credits toward a Masters in Information Systems (MSIS), a Masters in Business Analytics (MSBA) or Master of Business Administration (MBA). A total of thirty percent of the total credits taken towards the Masters degree may be double counted towards both the certificate and the Masters degree. So a student enrolled in both the certificate program and the Masters in Business Analytics (MSBA) can count a total of nine credits (30% of the 30 credits in the MSBA degree) towards the certificate. A student enrolled in the MBA program can count all twelve of the certificate course credits towards the MBA degree. Only one certificate program can be double counted towards a Masters degree. Certificate course credits cannot be counted towards the completion of another certificate program.

The program will be offered on the UMCP campus, at our DC location in the US Department of Commerce building, our Baltimore facility in the Baltimore BioPark, or our facility at the Universities of Shady Grove. Classes will be held in the late afternoon or evening to accommodate the schedules of our working professional students.

Our course format is on a fifteen-week (plus a final exam in the sixteenth week) semester for two hours and forty minutes per week. Students may take two courses per semester so that they could complete the program in one academic year. Students may also elect to complete the courses at their own pace. As stipulated in University policy, students will need to complete the coursework within five years of enrolling.

III. Title of Certificate: Post-Baccalaureate Certificate in Leading and Managing Healthcare Transformation

IV. Course and Catalog Descriptions (Extensive course descriptions are in Appendix 1):

Required Courses:

Healthcare Operations Management and Marketing: This course will introduce a variety of tools that have been used to reduce costs, minimize waste and create value in the healthcare sector. This course will focus on two critical aspects marketing in the context of hospitals and other health delivery organizations: service quality and customer relationship management.

Health Informatics and Information Technologies: This course is targeted at professionals, managers, and consultants in healthcare to develop their understanding of core health informatics knowledge, IT concepts and management skills. Students will learn about policies, standards and methods relating to electronic health records, telehealth, data analytical systems, cybersecurity, information exchange, data quality, cloud computing, behavior change, population management, personal data collection devices, emerging digital health tools, and how these elements may be implemented and can come together as parts of a system.

Current Topics in Healthcare Transformation: This course will cover a range of different topics selected to enhance students’ understanding of critical policy and market changes and how to lead transformation in their organizations. Specific modules include: Accountable care organizations, Population health management, MACRA and its implications for different players in healthcare, mergers and acquisitions in the healthcare industry, security and privacy of health data, building an evidence-based culture to leverage data, developing high-performance teams, leading and managing organizational change, precision medicine and its implications

Health Economics and Financing: This course is designed to provide managers and professionals with a comprehensive overview of topics related to the financial aspects of healthcare. Students will gain a perspective of how the healthcare ecosystem “works” from an economics perspective. The knowledge will be helpful for better economic analysis and business management in healthcare, including topics such as payer reimbursement negotiation, rate setting, revenue cycle management, and capital projects financing.

V. Course Sequence

Below is a table showing how a student can complete the required coursework over a two-semester period as a part-time student. Each term is eight weeks long so two terms comprise one semester. Motivated students could complete the program in one semester, if staffing permits offering all courses in a single semester. We anticipate most students would take two or more semester to complete the program.

Student Schedule for Part-time certificate, completed in two semesters

Fall	Spring
Health Economics and Financing	Health Informatics and Information Technologies
Healthcare Operations Management and Marketing	Current Topics in Healthcare Transformation

VI. Faculty

Primary oversight of this program will be provided by a faculty member assigned as the director of the program. A committee of faculty members has been created to address issues including admissions, academic policies, student activities, and internship / placement opportunities. The program would also be overseen by the Director of the Center for Health Information and Decision Systems and the Dean’s office.

Faculty who teach courses in this program shall be drawn from the faculty of the Robert H. Smith School of Business, particularly the Decisions, Operations, and Information Technology (DO&IT) area. The DO&IT area of the Robert H Smith School of Business currently has 41 full-time faculty. All of these faculty have doctoral degrees in economics, information systems, industrial engineering, operations, math or statistics.

VII. Learning Outcomes and Assessment

Learning Outcome 1: Knowledge of Healthcare Business Strategies and Policies and their Managerial Implications. *Smith certificate students understand key principles and their applications for healthcare strategy development and policy-making*

- Understand the core processes and stakeholders of healthcare delivery
- Analyze healthcare policy and potential impacts on business decisions
- Apply models and frameworks to support health sector strategic decision-making
- Discern healthcare delivery practice changes and supply and demand dynamics of US healthcare
- Evaluate healthcare financing options; use spreadsheets to support healthcare financial decision-making

Learning Outcome 2: Proficiency in Leading Healthcare Organizations. *Smith certificate students demonstrate proficiency through formulating appropriate leadership plans.*

- Articulate skills and best practices for creating and leading high performance teams, managing human capital, and assessing performance in healthcare organizations
- Become familiar with tools for optimizing healthcare processes
- Develop plans and tactics to market healthcare services using theory, best practices and supportive tools
- Understand methods for fostering innovation in healthcare environments

Learning Outcome 3: Knowledge of Healthcare Information Systems and Data Analytics

- Understand key managerial issues relating to the selection, implementation and effective use of information technologies in healthcare environments
- Understand the value and applications of health data and associated analytical methods
- Discern the digital transformation of healthcare and applications of associated technologies
- Evaluate healthcare providers', managers' and consumers' information needs and the systems needed to support those needs, such as to enhance patient engagement, improve clinical performance, optimize supply chains, and promote communications.

For all learning objectives, the measures, criterion and method of assessment are:

Measure:	Students will be required to pass a set of questions delivered as part of the final exam in each core course.
Criterion:	At least 90% of students will receive an average rating of “Meets Standards” or better on the core course final exam questions. The Academic Director will meet with students rated below “Meets Standards” to help improve their performance or determine their continued participation in the program.
Assessment:	Every Year, starting in the 2017-2018 academic year.

VIII. Admissions Criteria

Applicants to the Leading and Managing Healthcare Transformation certificate program must have completed all of the requirements for a baccalaureate degree prior to their acceptance into the program. All applicants must submit: Transcripts from all undergraduate and graduate institutions that have been previously attended, Graduate Record Examination (GRE) scores or the Graduate Management Admissions Test (GMAT) scores, a complete online application form that includes a written essay articulating qualifications and motivation for pursuing advanced education, two letters of recommendation from supervisors or from professors competent to judge the applicant's probability of success in graduate school.

In addition, an admissions interview may be required. After initial screening, the Admissions Office may select candidates for interviews which may be done in person or by telephone. Proof of English language proficiency (TOEFL or IELTS official scores) is also required unless the applicant has received an undergraduate or graduate degree from a select list of countries. For international student needing an F1 visa, a completed certification of finance form and supporting financial documentation are required.

In addition to Graduate School requirements, admission decisions for the Leading and Managing Healthcare Transformation certificate program will be based on the quality of previous undergraduate and graduate course work (if applicable), the strength of Graduate Record Examination scores or the Graduate Management Admissions Test scores, the relevance of prior work and research experience, and the congruence of professional goals with those of the program. Students should submit application materials for the fall semester by April 1.

Admissions criteria shall be similar to the criteria used to evaluate students seeking admission to the MBA program. As students in the certificate program will be enrolling in classes that are also offered in the MBA program, it is essential that students in both programs have similar minimum qualifications to ensure that all course enrollees have sufficient preparation for the program. While some students in the certificate program may already have a Master of Business Administration degree, the ever changing nature of healthcare and regulatory compliance in this area would still necessitate continuing education in this topic. The faculty of the Smith school have experience teaching courses with heterogeneous student groups. In fact the variation in experience enhances the learning outcomes because it facilitates discussion of application of the material by those who have been in practitioner or regulatory roles in health care management.

IX. Off-Campus Programs

In addition to holding classes on the UMCP campus, some sections of the program may meet at our DC location in the US Department of Commerce building, our Baltimore facility in the Baltimore BioPark, or our facility at the Universities of Shady Grove. Those facilities already contain adequate classrooms, computer facilities, study rooms, and administrative space for academic advising, career advising, and student activity support.

XI. Commitment to Diversity

The Robert H. Smith School of Business community is multifaceted at every level – students, staff and faculty represent a diverse blend of backgrounds, nationalities, ethnicities and experiences. About a dozen Smith School and student clubs are focused on bringing members together who have similar interests in gender, nationality, religion, and sexual orientation. To attract the most diverse population possible for the proposed Leading and Managing Healthcare Transformation certificate program, Smith School recruiting staff will focus on domestic efforts. These efforts will be targeted at recruiting U.S. minorities and American women of all ethnicities.

Current efforts include:

- Representing Masters programs in U.S. MBA and Masters Fairs and Tours
- Representing Masters programs in International MBA and Masters Fairs and Tours
- Online Chats
- U.S. College Visits
- International College Visits
- GMASS-based Mailings
- GRE-based Mailings
- Direct Mail
- Email Campaigns
- Outreach to College and Campus Organizations and Clubs
- Participating in Career/Graduate Study Panels or Workshops
- Presentations at Professional Conferences
- Creation of "Leap Your Career Forward" for Current UMD Students Looking At Post-Undergraduate Studies (An Annual Event)
- Advertising in UMD Campus Newspapers
- Masters Only Education Fairs (Fall And Spring) Throughout the U.S.
- Participation in a Masters-focused Business School Alliance
- Participant in Graduate Business Education Events Targeted for Underrepresented Populations, Particularly U.S. Minorities and Women
- Including Master's Level Programming in Marketing Content Targeted to U.S. Military/Veterans
- Outreach to College Organizations in the Washington, D.C. Area
- Enhancement of Website for All Masters Programs
- Inclusion of Spotlight and Vignettes of Masters Alumni and Current Students who Reflect Diversity
- Participation in Events Targeted for Women Seeking Graduate Study (General And Non-MBA Based Events)
- Social Media and Online Advertising within U.S. Markets
- Reaching out to local meetup groups and other grass root events

XI. Resources

Resources and Expenditures – Leading and Managing Health Care Transformation certificate

Resources

Resources Categories	Year 1	Year 2	Year 3	Year 4	Year 5
1. Reallocated Funds	\$ -	\$ -	\$ -	\$ -	\$ -
2. Tuition/Fee Revenue (c+g below)	\$ 295,560	\$ 304,427	\$ 313,560	\$ 322,966	\$ 332,655
a. #FT Students	0	0	0	0	0
b. Annual Tuition/Fee Rate	\$ -	\$ -	\$ -	\$ -	\$ -
c. Annual FT Revenue (a x b)	\$ -	\$ -	\$ -	\$ -	\$ -
d. # PT Students	15	15	15	15	15
e. Credit Hour Rate	\$ 1,642	\$ 1,691	\$ 1,742	\$ 1,794	\$ 1,848
f. Annual Credit Hours	12	12	12	12	12
g. Total Part Time Revenue (d x e x f)	\$ 295,560	\$ 304,427	\$ 313,560	\$ 322,966	\$ 332,655
3. Grants, Contracts, & Other External Sources	\$ -	\$ -	\$ -	\$ -	\$ -
4. Other Sources	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL (Add 1 - 4)	\$295,560	\$304,427	\$313,560	\$322,966	\$332,655

Tuition and fee revenue is based on the approved resident rates for the Smith School of Business.

Expenditures

Expenditure Categories	Year 1	Year 2	Year 3	Year 4	Year 5
1. Faculty (b+c below)	\$99,360	\$102,341	\$105,411	\$108,573	\$111,831
a. #FTE	0.4	0.4	0.4	0.4	0.4
b. Total Salary	\$92,000	\$94,760	\$97,603	\$100,531	\$103,547
c. Total Benefits	\$7,360	\$7,581	\$7,808	\$8,042	\$8,284
2. Admin. Staff (b+c below)	\$19,950	\$19,950	\$19,950	\$19,950	\$19,950
a. #FTE	1.0	1.0	1.0	1.0	1.0
b. Total Salary	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000
c. Total Benefits	\$4,950	\$4,950	\$4,950	\$4,950	\$4,950
3. Total Support Staff (b+c below)	\$29,925	\$30,823	\$31,747	\$32,700	\$33,681
a. #FTE	0.3	0.3	0.3	0.3	0.3
b. Total Salary	\$22,500	\$23,175	\$23,870	\$24,586	\$25,324
c. Total Benefits	\$7,425	\$7,648	\$7,877	\$8,113	\$8,357
4. Equipment	\$0	\$0	\$0	\$0	\$0
5. Library	\$0	\$0	\$0	\$0	\$0
6. New or Renovated Space	\$0	\$0	\$0	\$0	\$0
7. Other Expenses: Operational Expenses *	\$104,556	\$105,443	\$106,356	\$107,297	\$108,266
TOTAL (Add 1 - 7)	\$253,791	\$258,556	\$263,464	\$268,520	\$273,727

*Operational expenses include program advertising and scholarships.

Appendix 1: Detailed Course Descriptions

Healthcare Operations Management and Marketing

With increasing competition, a changing regulatory environment, and informed customers with heightened value expectations, healthcare organizations are facing intense pressure to improve operational excellence and service quality. The competitive landscape is also creating the need to actively manage customer expectations and improve marketing efforts. This course provides insight into the critical strategic decisions that healthcare managers must make as they seek to improve the performance of their organizations and attract and retain customers.

In 2015 the US spent over 3 trillion dollars on healthcare, with estimates projecting an annual growth of 5.8% per annum till 2024. The healthcare system constitutes between 18-20% of the total GDP. Policy makers and practitioners acknowledge that a growth in spending is not sustainable in the long run. The operations management and performance improvement component of the course will introduce a variety of tools that have been used to reduce costs, minimize waste and create value in the healthcare sector. Topics to be covered include:

- The business of healthcare delivery
- Healthcare performance measures
- Prioritizing improvement efforts: lessons from Pareto
- Optimizing process flows
- Capacity management, staffing, and scheduling
- Variability and quality management
- Lean principles in healthcare

In the past, the nature of competition and choice in healthcare was such that healthcare organizations typically did not emphasize marketing activities, treating the customer base as virtually guaranteed. Today, healthcare consumers are making consumption decisions in an environment characterized by greater transparency and choice. Thus, it has become imperative for managers to develop strategies for actively recruiting and retaining patients. This course will focus on two critical aspects marketing in the context of hospitals and other health delivery organizations: service quality and customer relationship management. Specific topics include:

- Understanding the new healthcare customer
- Integrated gap models of service quality
- Measuring healthcare service quality and setting standards
- Customer identification, selection, and acquisition
- Engaging patients and building enduring relationships
- Capturing, managing, and leveraging customer data
- Managing brand and online reputation
- Social media in healthcare
- Regulatory and ethical issues in healthcare marketing practices

Health Informatics and Information Technologies

Information technology (IT) is playing a vital role in enabling the transformation of the US healthcare system. The number of US hospitals with an EHR system has grown from 9% in 2008 to a striking 84% in 2014, a 9-fold increase in 6 years. The digitization of healthcare has profoundly changed how health data is generated, collected, stored, analyzed, and applied. At the same time, technology is evolving rapidly, with large-scale machine learning and mobile technologies finding innovative ways in reshaping the delivery of care. The coming trend of big data in healthcare opens exciting opportunities for better care management and clinical decision support.

These developments create significant challenges for the next generation healthcare leaders and managers. To devise strategies to successfully deploy and manage health IT at different levels of healthcare organizations, the future leaders not only need the understanding of healthcare context, but also should develop a thorough understanding of the business, investment, strategy and policy aspects related to the emerging health IT contexts.

This course is targeted at professionals, managers, and consultants in healthcare to develop their understanding of core health informatics knowledge, IT concepts and management skills. Students will learn about policies, standards and methods of information exchange, data quality, cloud computing, behavior and population management, personal data collection devices, and how these elements can come together as parts of systems.

Major Topics

- Major data sources and types in healthcare
- Electronic health records and related technologies
- Clinical decision support
- Data standards, and exchange
- Population management and predictive analytics
- Telemedicine and mHealth
- Strategic planning, evaluation, and implementation of IT projects

High Level Course Learning Objectives

- Have a broad understanding of the health IT ecosystem
- Be conversant with major healthcare technology information standards and interchange methods including electronic health records (EHR) management and exchange standards such as Health Level-7 (HL7), etc.
- Be able to analyze and discuss business cases related to healthcare IT, including both the technical and organizational/systemic dimensions
- Be able to navigate and discuss advances in health IT, including genetic profiling, lifestyle management, activity tracker data collection, and analytics.
- Be able to knowledgeably discuss the opportunities and problems, including legal considerations presented by HIT and strategies for dealing with them.
- Be able to think strategically how IT and health informatics be deployed to support the payment reform and regulation changes.

Current Topics in Healthcare Transformation

There is no other sector of the US economy that has witnessed such major changes in the policy and regulatory environment in recent years as healthcare. The passage of the Affordable Care Act in 2010, coupled with a growing national realization that fundamental transformations in healthcare practice and delivery are needed to achieve the desired goals of patient safety, reduced costs, and improved access to healthcare services, has created new opportunities and challenges for all players in the healthcare ecosystem. Healthcare administrators, clinicians, payers, and executives alike are faced with an external landscape that requires a new form of strategic thinking, and an internal imperative to develop an expanded capacity to manage persistent and radical change.

This course will cover a range of different topics selected to enhance students' understanding of critical policy changes and how to lead transformation in their organizations. Specific modules include:

The External Environment

- Accountable care organizations
- Population health management
- MACRA and its implications for different players in healthcare
- Mergers and acquisitions in the healthcare industry
- Security and privacy of health data: crafting cybersecurity policy

Internal Challenges

- Building an evidence-based culture to leverage data
- Developing high-performance teams
- Leading and managing organizational change
- Precision medicine and its implications

Health Economics and Financing

The healthcare industry accounts for \$3 trillion of spending, and roughly 18% of the GDP in the US. It also represents 9% of the total employment. The past several decades have witnessed the rapid growth of healthcare spending. At the same time, healthcare is an industry that is characterized by information asymmetries and market failures. How to finance healthcare and regulate its costs have always been a core issue in the national policy.

The economics and financing of healthcare clearly also affect everyone in the industry. With new healthcare reforms and constant adjustments in payment models, it is imperative for the business leaders in the healthcare industry to have a thorough understanding of its economics and financing aspects.

This course is designed to provide managers and professionals with a comprehensive overview of topics related to the financial aspects of healthcare. Students will gain a perspective of how the healthcare ecosystem “works” from an economics perspective. The knowledge will be helpful for better economic analysis and business management in healthcare.

Key Topics:

- The value of health, the determinants of health
- Demand and access for healthcare
- Health insurance market, moral hazard and adverse selection
- Patient behavior, long-term care
- Hospital and physician market
- Pharmaceutical and medical device industry
- Healthcare financing mechanisms
- Pay for performance, value-based purchase
- Accounting and Financial statements and reports
- Cost-benefit analysis and Cost-effectiveness analysis
- Technology and the impact on healthcare spending