### Course Information*

- **Course:** 90836 – Health Systems
- **Offering:** Mini 1 (6 units)
- **Location:** HBH Hall 1000
- **Time:** Tuesday 6:00 pm – 8:50 pm
- **Dates:**
  - Tuesday, August 26, 2014 – First Class
  - Tuesday, October 7, 2014 - Final Class
  - Final Exam: Week of October 13th
  - Final grades due – October 22, 2014 by 4pm

- **Instructor:** James Jordan  
  Distinguished Service Professor of Healthcare & Biotechnology Management  
  Sr. Director, Healthcare and Biotechnology and Programs  
  Office 1104C Hamburg Hall  
  Phone: 412-268-9952  
  Email: jfjordan@andrew.cmu.edu

- **Teaching Assistant:** Robert Kosarowich  
  Email: robert.kosarowich@gmail.com

- **Office hours – Tuesday and Thursday afternoons**

### Prerequisites (if applicable)

None

### Description*

Health Systems is a foundation course intended to introduce students to many of the broad subjects that will be detailed in more advanced course work. This introduction provides a framework to aid students in navigating from public policy through to healthcare delivery.

Public policy is the study of the written and unwritten principles on which law is based. Laws and regulations translate policy into action. Public policy and laws form the basis of health policy. Health policy is supported by:

- Public health initiatives focused on preventing disease, prolonging life and promoting health for the entire population. (i.e. diabetes awareness)
- Population health is interested in the outcomes of individual groups and the distribution of outcomes among the groups. (i.e. income equality and infant mortality)
- Healthcare delivery is focused on access, quality and cost. At this time in our history, Healthcare Reform best embodies the intent of this aspect of health policy.

Through the use of group assignments, students will create a model which links external environment into healthcare delivery profitability. Modeling is a form of combining individual technical components with the greater knowledge and conceptualization of the entire process. Its promise is to promote better decision making by envisioning how micro decisions interconnect to mission, goals and outcomes.

Utilizing the two textbook books, students will gain an understanding of the topics of health policy, public health, population health and healthcare delivery.
1. U.S. Government Structure & Laws: (online)


2. Books: (must be purchased or rented)
3. U.S. Reimbursement System: (online)

**CMS Reimbursement**

The intention of the Centers for Medicare and Medicaid Services (CMS) reimbursement system is to align payment methodologies with different types of healthcare services. For example, in the fee-for-service (FFS) system, providers receive payment after the health service has been rendered. In a prospective payment system (PPS), payments rates are established in advance for a specific period of time.

This section outlines the various reimbursement methods deployed today:
- Acute Inpatient System – DRG
- Outpatient System – Ambulatory Payment Classification
- Skilled Nursing Facility
- Home Health
- Inpatient Rehabilitation
- Inpatient Psychiatric
- Long-term Hospital
- Medicare Advantage Program – Managed Care Organizations
- CMS Fee Schedule – physicians, ambulances, services, clinical laboratory, DME, HME

Subpages: Global Payments System, Overview of Coding & Billing, Overview of Reimbursement Methods

https://sites.google.com/a/stratactic.com/healthcare-data/cms-reimbursement

4. U.S Healthcare Legislation & Reform: (online)

**Legislation**

Gross domestic product (GDP) is the market value of all final goods and services produced within a country and is often considered an indicator of a country's standard of living.

In the United States, GDP for 2011 was at $15.1T with healthcare consuming $2.7T (17.9%) of GDP. Healthcare is expected to consume 20% of Gross Domestic Product (GDP) by 2018. According to the OECD, the United States spend almost double on healthcare than most other countries. In practical terms, this means that up to 8% of the U.S. economy is spent pursuing healthcare while other countries can utilize those dollars in other areas such as social reform, infrastructure, technology and defense. This situation threatens the competitiveness of the United States.

The overall intention of Healthcare Reform is to simultaneously improve all aspects of the formula of outcomes. An improvement in outcomes is defined as an increase in healthcare availability plus an improvement in quality while simultaneously reducing overall cost. (Outcomes = Availability + Quality + Cost)

According to Healthcare.gov, the goals of healthcare reform are to:

1. to reduce long-term growth of health care costs for businesses and government;
2. to protect families from bankruptcy or debt because of health care costs;
3. to guarantee choice of doctors and health plans;
4. to invest in prevention and wellness;
5. to improve patient safety and quality of care;
6. to assure affordable, quality health coverage for all Americans;
7. to maintain coverage when you change or lose your job;
8. to end barriers to coverage for people with pre-existing medical conditions.

Health Care Reform is change the business of healthcare and re-organizing business models. The intention of this site is to educate readers on how the CMS reimbursement system disperses funding, to articulate Accountable Care Organizations and other demonstration projects business models.

Subpages: Environmental Scan, Healthcare Reform

https://sites.google.com/a/stratactic.com/healthcare-data/legislation-reform
Five mechanisms will be used to evaluate student performance during the course:

- **Participation 5%**
- **Disease State Fact Book Group Work: 25%**
  - **Supplier View – 5%**
  - **Hospital View – 5%**
  - **Insurer View – 5%**
  - **Final Presentation 10%**
- **Five Exam: 10% each for a total of 50%**
- **Code of Law/Code of Federal Regulation Paper (Individual assignment) – 10%**
- **Two Peer Reviews 5% each for 10%**

**Participation:** Participation will be assessed through three objective measures: class attendance, showing up for class on time and not leaving early, and speaking aloud during class.

**Attendance:** If a student cannot attend a class they should send the instructor an e-mail to let him know they are unable to attend. This course requires significant group work and meets for 3-hours. Missing more than two sessions will result in a full grade loss, missing three sessions a grade and a half loss. More than two sessions will result in a failed grade. Each lecture will contain two parts, missing one of two parts is considered missing half a session. Missing two parts equals one session.

**Peer Reviews:** There is significant team interaction and there will be two individual assessment forms submitted; one near the middle of the course and the other submitted at the end. Having two feedback mechanisms allows student to obtain feedback and initiate corrective action if needed.

In this class, teams may terminate students who are not engaged in the team. There is a defined process for termination. Since the project is 30% of the grade and peer reviews are another 10%, terminated students will start at a 60% grade and attaining 100% of the special project can not deliver better than a B- for the overall course.
Exam: There will be 4-exams with a final exam at the end semester.

Homework: A homework assignments will be required.

Group Projects: There will be major group activities in this course. Given the need to have balanced teams, teams will be comprised of both self-selected and assignment students from the professor. As diverse functional backgrounds are necessary for a balanced team, the professor will take some discretion in team balance. For example, U.S. students will be balanced with non-U.S. students so that students knowledgeable of U.S. government and history are on each team.

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**Learning/Course Objectives***

<table>
<thead>
<tr>
<th><strong>Objective # 1: Government, Laws &amp; Regulations</strong></th>
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<tbody>
<tr>
<td>Public policy is the study of the written and unwritten principles on which law is based. Students are directed to an online model created by the professor that details the structure of the U.S. Government; inclusive of the charters of freedom, the executive branch, the legislative branch, the judicial branch and the independent agencies and government corporations.</td>
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<tr>
<td>Laws and regulations translate policy into action. Students must be familiar with how they originate and which parts are applicable to healthcare. This lecture will review:</td>
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<tr>
<td>• Code of Law: contains 51 titles are Acts of Congress compiling and codifying the general and permanent federal laws of the U.S. This lecture will highlight the titles that the healthcare students should be familiar with.</td>
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<tr>
<td>• Code of Federal Regulations: the executive departments and agencies of the federal government codify administrative law in support of the Code of Law.</td>
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<tr>
<td>• Example, if Congress enacted a Code of Law that simply stated there are to be no “excessive” levels of chlorine in drinking water. The EPA could define via a Code of Federal Regulation the specific level that is considered excessive.</td>
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**Learning Objective # 1:**

Modeling is a form of combining an individual technical component with the greater knowledge and conceptualization of the entire process. Students can delve into the micro aspects of the system without losing the macro prospect of the system and its goals. Modeling promotes better decision making by helping the student see how micro decisions are interconnected to the mission, goals and outcomes of the macro system.

**Assessment Methodology # 1:**

The instructor has identified and provided web links for all Code of Law (COL) or Code of Federal Regulation (CFR). Each individual will select a COL Title/sub-title for their homework assignment and identify the current political issues and debates associated with the Title/sub-title.

The assignment will be in the format of a PEST Analysis, which stands for Political, Economic, Social and Technology. The format will be provided to the students.
Course Objective # 2: Public and Healthcare Policy

Students will be provided with a perspective of how policy and laws form the basis of health policy. Health policy is concerned with the activities to achieve specific health care goals within a society. According to the World Health Organization, an explicit health policy can achieve several things: it defines a vision for the future; it outlines priorities and the expected roles of different groups; and it builds consensus and informs people.

Health policy is supported by:

- Public health initiatives focused on preventing disease, prolonging life and promoting health for the entire population. (i.e. diabetes awareness)
- Population health is interested in the outcomes of individual groups and the distribution of outcomes among the groups. (i.e. income equality and infant mortality)
- Healthcare delivery is focused on access, quality and cost. At this time in our history, Healthcare Reform best embodies the intent of this aspect of health policy.

Learning Objective # 2:

Provide students with a set of skills and principles essential for practice in health policy, public and populations health and health care management. Student teams will pick a disease and -

- Create a disease state fact book to appreciate the impact of a disease from prevalence through total cost. A model will be offered as a template on Blackboard.

Assessment Methodology # 2:

Teams will be asked to create a disease state fact book that will demonstrate their ability to assess statistical finds and empirical literature to build a model. Completion of this task will demonstrate the team’s ability to synthesize literature and create an analytical model. Subsequently, the team will utilize this model for the balance of the course to conduct decision-making and evaluation.

During their final presentation, teams will next identify current public and population health initiatives associated with their chosen disease model. Students are asked to assess how well the different initiatives impact their disease model, demonstrating their ability to evaluate the efficiency of policies and integrate economic concepts. Inclusive in this analysis, teams are asked to identify any market failures in their chosen disease state from a public, population or healthcare delivery perspective.

Lastly, a selection of questions from the book will be presented in five exams. The exam will demonstrate the students understanding of the materials.

Course Object # 3: Healthcare Delivery and Reform

Healthcare is one of the most complex, highly regulated markets in the world. Yet, it marketing methods, operational and business models are poorly documented due to its environment of immense complexity. On an ongoing basis, payers, insurers, hospitals, medical clinics, manufacturers (pharmaceutical, diagnostic, biotechnology services, medical devices and healthcare information technology) and healthcare providers vie against one another in their respective markets.

Successful healthcare executives will need to be knowledgeable in navigating the healthcare value chain and determining how to create a winning strategy based upon their segment. In order to appreciate that each healthcare market has its own unique approach the professor has created a healthcare system flow chart. This flow chart will be discussed.
Learning Objective # 3:

Given the complexity of the healthcare industry, the individual group segment project will stimulate critical thinking. Group presentations will expose students to an expanded array of perspectives in determining how the healthcare system/industry operates.

The healthcare value chain offers significant guidance on how the healthcare system flows. Healthcare Reform allows for a dialog as to how specific Healthcare Reform impacts this environment. Segmenting reimbursement and profitability of the various verticals within the healthcare industry offer great learning for the individual team as well as entire class.

Learning Strategy # 3:

Each team will present their Disease State Fact Book from multiple perspectives within the value chain and present a 20-minute presentation to the class. This presentation will build upon the previous group assignments. Students will present their Disease Fact Book along with their corresponding DGR and CPT Code analysis.

Assessment Methodology # 3:

For the group project, students are provided a template from which they can draw upon for their presentations. The Disease State Fact Book presentation template will be provided. Additionally, students will identify public health initiatives associated with their chosen disease state and identify any population health disparities associated with their chosen initiatives.

The inclusion of all the components earns the student a B- grade. Grades accretion occurs as the students provides analytical insight and are maximized by providing concrete independent 3rd party evidence of assumptions. The template for the minimum components is below and historical examples are provided at the courses Blackboard site.

A final 20-minute presentation will be made to share the details of each group’s model. Since this a foundational course, presentation feedback will be given but will not be reflected in the grade.

Lastly, a selection of questions from the book will be presented in the exams. The exams will demonstrate the students understanding of the materials.

<table>
<thead>
<tr>
<th>Name</th>
<th>Participation</th>
<th>Disease State Fact Book - 25 Pts</th>
<th>Tests - 50 Pts</th>
<th>Paper</th>
<th>Peer Reviews (10%)</th>
<th>Final Grade</th>
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<tbody>
<tr>
<td></td>
<td>5 Pts</td>
<td>Supplier</td>
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<td>Final</td>
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Grading Scale*

A+ 99.0-100%  B+ 88.0-90.9%  C+ 78.0-80.9%
A  94.0-98.9%  B  84.0-87.9%  C  74.0-77.9%
A- 91.0-93.9%  B- 81.0-83.9%  C- 71.0-73.9%

The grade of A+ is reserved for truly exceptional performance.

Grading Rubric/explanation of grades *

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The grade of A+ is reserved for truly exceptional performance.
Below is an overview of the course outline. Specific details on the content of each lecture can be found at the Blackboard sight.

## Course Outline

<table>
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<tr>
<th>Class #</th>
<th>Topic</th>
<th>Required Pre-Work</th>
<th>Deliverables</th>
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<tbody>
<tr>
<td>1</td>
<td>Part 1: <strong>Course &amp; U.S. Government Structures</strong>&lt;br&gt;Part 2: <strong>Laws &amp; Regulations</strong>&lt;br&gt;• Code of Law&lt;br&gt;• Code of Federal Regulation&lt;br&gt;Part 3: Breakouts for homework</td>
<td>Pre-reading regarding the structure of the U.S. Government</td>
<td>By end of class, teams should be able to navigate laws &amp; regulations</td>
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<td>2</td>
<td>Part 1: <strong>Healthcare Systems &amp; Providers</strong>&lt;br&gt;• Healthcare System Overview&lt;br&gt;• HCD Book Chapters 9-12&lt;br&gt;• Handbook: Chapters 1-2&lt;br&gt;Part 2: Introduction to Disease State Fact Book (Team Breakouts)</td>
<td>Book Chapters&lt;br&gt;• HCD Book Chapters 9-12&lt;br&gt;• Handbook: Chapters 1-2</td>
<td>Homework Due at beginning of class on issues Paper on a COL or CFR Title/sub-title</td>
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<tr>
<td>3</td>
<td>Part 1: <strong>Test # 1 on class # 2 materials</strong>&lt;br&gt;Part 2: <strong>Insurance &amp; Economics:</strong>&lt;br&gt;• HCD Book Chapters 3&lt;br&gt;• Handbook: Chapters 3&lt;br&gt;• U.S. Reimbursement System</td>
<td>Book Chapters&lt;br&gt;• HCD Book Chapters 3&lt;br&gt;• Handbook: Chapters 3</td>
<td>Test # 1</td>
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<td>4</td>
<td>Part 1: <strong>Test # 2 on class # 3 materials</strong>&lt;br&gt;Part 2: <strong>Research, Pharmaceutical &amp; Medical Devices:</strong>&lt;br&gt;• Handbook: Chapters 4&lt;br&gt;• Presentation from Web</td>
<td>Review websites in syllabus&lt;br&gt;Book Chapters&lt;br&gt;HCD Book Chapters 4</td>
<td>• Test # 2&lt;br&gt;• Disease State Fact Book – <strong>Supplier View</strong> due at the beginning of Class</td>
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<td>Part 1: <strong>Test # 3 on class # 4 materials</strong>&lt;br&gt;Part 1: <strong>Healthcare Information Systems</strong>&lt;br&gt;• Financial Mgmt Systems&lt;br&gt;• Operational Mgmt Systems&lt;br&gt;• Clinical Mgmt Systems&lt;br&gt;• Healthcare Analytics&lt;br&gt;• Populations Health Mgmt&lt;br&gt;• Customer Relationship Mgmt</td>
<td>Review websites in syllabus</td>
<td>• Test # 3&lt;br&gt;• Disease State Fact Book – <strong>Hospital View</strong> due at the beginning of Class</td>
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<td>6</td>
<td>Part 1: <strong>Test # 4 on class # 5 materials</strong>&lt;br&gt;Part 2: <strong>Public, Population Health &amp; Healthcare Reform:</strong>&lt;br&gt;• HCD Book Chapters 6-8&lt;br&gt;• Handbook: Chapters 5&lt;br&gt;• Healthcare Reform (16 &amp; 17)&lt;br&gt;• Review of Specific Acts</td>
<td>Review websites in syllabus&lt;br&gt;Book Chapters&lt;br&gt;HCD Book Chapters 16-18&lt;br&gt;Handbook: Chapters 5</td>
<td>• Test # 4&lt;br&gt;• Disease State Fact Book – <strong>Insurer View</strong> due at the beginning of Class</td>
</tr>
<tr>
<td>7</td>
<td>Final Presentations 20-30 minutes depending on number of teams</td>
<td>Final Test on Class # 6 materials</td>
<td>Final Group Presentations</td>
</tr>
</tbody>
</table>
| **Plagiarism and cheating notice*** | Plagiarism and other forms of academic misrepresentation are taken extremely seriously. Misrepresentation of another’s work as one’s own is widely recognized as among the most serious violations. The violation is clearly flagrant when it occurs as plagiarism on a required paper or assignment or as cheating on an examination, regardless of whether it is a take-home or in-class examination. The punishment for such offenses can involve expulsion from the program. There are many other ways in which a violation can occur.  

*Academic Dishonesty:* Students are expected to maintain the highest ethical standards inside and outside the classroom. Cheating on exams and term papers (i.e. plagiarism and unauthorized collaboration) is obviously discouraged and will be treated appropriately. The usual penalty for violations is a failing grade for the particular assignment in question; however, in some instances, such actions may result in a failing grade for the course. |

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