



American College of
Healthcare Executives
for leaders who care

FACHE[®]
Fellow of the American College of Healthcare Executives

***Becoming Board Certified in Healthcare Management and
a Fellow of the American College of Healthcare Executives***

Knowledge Area Covered in the Board of Governors Exam:

Healthcare Technology and Information Management



ACHE - South East Texas Chapter

An Independent Chapter of the American College of Healthcare Executives

Healthcare Technology/Information Management

Introduction

This subject covers both management information and clinical information systems, including computer-based support for management, assessing how current technologies and major innovations are changing the way healthcare executives manage, using information systems for short – and long-range planning, using clinical information systems, and information systems acquisitions.

Healthcare Technology/Information Management

18 questions (9%) from this specific knowledge area will be asked on the Board of Governor's Exam related to the following:

- Knowledge of the role and function of information systems in operations
- Knowledge of the trends and changes in clinical technology
- Knowledge of security requirements for information management
- Knowledge of research and development of information and clinical technology

Healthcare Technology/Information Management

Learning Objectives

- Capturing knowledge about technological advances
- Clinical technology planning and acquisition
- Information Systems Planning
- Role of the Chief Information Officer
- Evaluation of Vendors
- Categories of Information Systems
- Data Security
- Integrated Delivery Systems and Managed Care

Healthcare Technology/Information Management

Learning Objective:

1. Development of Technology and Information Systems

- Planning

- Organizing

- Directing

- Controlling

CLINICAL TECHNOLOGY

SOURCES OF INFORMATION

U.S. News and World Report

Wall Street Journal

FutureScan – annual publication

MD Buyline –web site

Kaiser Family Foundation – web site

Commonwealth Fund

Internal Evaluation and Management

- Utilize departmental managers
- Create physician panels
- Research competitive options
- Capitalize on vendor information
 - require objectivity, focus on Life-Cycle costs, particularly response/expense of maintenance

FutureScan (9th Edition)

2007-2012 Projections

- **20% to 40% of annual rise in expenditures**
- **Concept of the “Technological Imperative”**
- **Only 19% think it very or somewhat likely that CMS will cover increase in expense**
 - **E.g. CT, MRI, PET, off-pump CV work, stents, minimally invasive surgery, etc.**
- **Cost of technology growing at 8% per year**
 - **Implanted Cardioverter Defibrillator (ICD) \$25K**
 - **Natural Orifice Transluminal Endoscopic Surgery (NOTES)**

Managerial Imperative for Clinical Technology

- 91% think it very/somewhat likely that new technology will continue unabated
- 90% think that New technology committees will become prevalent
- 77% think these committees will be competent to assess patient safety implications (focus on use, not safety)
- Necessary to understand the clinical pertinence of the technology and its operational “business model”

Stay WIDE AWAKE to vendor – physician partnerships

Honor logistical mindset - -carefully review data collection(2nd largest \$)

Monitor vendor presence in the institution – attempt consignment model

Require in-house trial of new products

Healthcare Technology/Information Management

Learning Objective:

1. Development of Information Systems

Prevailing IT Strategies

- Integration
- Ubiquitous Access
- Storage & ILM
- Biomedical Convergence
- Digitization Effect

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Learning Objective:

2. Information Systems Planning (planning that is guided by a management information systems steering committee with representation from administration, medical staff, major system users and the information systems development of the organization)

- **Organizing, Prioritizing and Funding IT Capital Projects**
Strategic alignment, budget-able benefits, high do-ability

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Learning Objective:

2. Information Systems Planning continued.....

- Turning operational needs into technical specifications
- Important Question – Make or Buy?
- PMO – Project Management Office Standards = Predictable Outcomes
- Solution Partner to Service Line Alignment

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Learning Objective:

- 3. Role of the Chief Information Officer** (someone to guide the information systems planning process; someone who should be a member of the executive management team who understands the processes of strategic planning and management)

Other Key Roles Include:

Clinical Integration Strategy

Physician Integration Strategy

Market Integration Strategy

Ultimate Accountability for Information Security (HIPAA)

Healthcare Technology/Information Management

Learning Objective:

3. Role of the Chief Information Officer

Specialized Roles continued...

Creates Visibility to IT capital projects

Assures prioritization, ROI, Funding

Showcase Resource Bandwidth/Gaps

Assures Execution Occurs

Delivers on Organizational SLA for IT

Measures and Showcases IT Performance Metrics

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Learning Objective:

4. **Evaluation of Vendors** (evaluating commercial software from vendors for implementing systems rather than writing computer programs with in-house staff)
 - **Needs Assessment**
 - **Success Criteria**
 - **RFP/RFI Process**
 - **Contracting Considerations (everything is negotiable!)**

*A look ahead: How will we measure success?

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Learning Objective:

- 5. Categories of Information Systems** (the general categories of information systems used in healthcare organizations such as clinical, administrative/financial and decision support for strategic management)
- **Revenue Cycle and Business Applications**
 - **ERP & Accounting**
 - **Decision Support & Reporting**
 - **Internal Development, WEB and IntraNet**
 - **Clinical & Ancillary (Including Service Lines)**

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Learning Objective:

- 6. Data Security** (protecting confidentiality of information is an important design criterion for healthcare information systems, particularly those dealing with patient data)
- **HIPAA – Information Management & Security**
 - **Role Security – Right Access for Right Job**
 - **Complex Passwords**
 - **Token/PIN Authentication**

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Learning Objective:

6. Data Security continued.....

- **Email Encryption**
- **Biometrics Technology**
- **Transportable Media (encryption)**
- **SSO (Single Sign-on)**
- **Physical Data Center Security**
- **Back-up and Offsite**
- **DR (Disaster Recovery) vs. HA (High Availability)**

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Learning Objective:

7. Integrated Delivery Systems and Managed Care

(understanding that provider networks developed through mergers, acquisitions and joint ventures require electronic communications among network members; managed care contracting places a priority on financial forecasting and modeling by healthcare organizations)

- **Contract Management and Payment Analysis Systems**
- **Revenue Forecasting**
- **Daily Flash (see visuals next slide)**

Healthcare Technology/Information Management

Learning Objective:

7. Integrated Delivery Systems and Managed Care continued.....

- **EDI (Electronic Data Interface)**
- **Contract Management**
- **Insurance Rules**
- **Bill Scrubbers**
- **Reimbursement Analysis**
- **Government Reporting and Others**



Balanced Performance Scorecard

Hospital Total Rankings									Report Month: February 2005
Rank Order →	1	2	3	4	5	6	7	8	MHHS Avg. ^{***}
Performance Objective	FB	KM	TW	HH	SE	SW	MC	NW	
Clinical Quality Indicators	102.2	93.8	106.9	93.1	86.8	77.9	93.7	78	91.6
ALOS: Budget (YTD)	94.5	100.8	103.3	96.7	95.1	97.3	96.3	97.2	97.6
ALOS: Prior (YTD)	94	100.5	104.6	97.5	99.6	97.2	97.5	100.2	98.9
Avg Chg Per Case: Budget (YTD)	90.3	97.9	98.3	95.7	93.2	98.2	93.7	92.4	95
Avg Chg Per Case: Prior (YTD)	88.6	98.1	93	91.4	94.3	92.9	93.3	92.3	93
Avoidable Days	191.29	200*	128.46	120.53	60.47	61.12	89.79	121.42	121.6
CRM: Inpatient	92.9	99	100.5	98.3	96.8	96.7	98.3	98.8	97.7
CRM: Outpatient	101.1	99.8	100.6	100.3	96.1	97.1	95.4	99.6	98.8
Managed Care % (YTD)	98.1	96.5	102	102.1	98.3	98.5	98.6	92.2	98.3
Supplies: per Adj. Pat. Day (YTD)	98.9	108.6	100.3	93.6	96.7	94.9	95.5	92.2	97.6
Supplies: NPR (YTD)	104.9	112.1	103	97.8	104.7	94.7	94.3	94.7	100.8
Operating Perf: Budget (YTD)	200*	132.3	97.7	117.2	81.7	55.4	32.5	0	89.6
Operating Perf: Prior (YTD)	200*	114.8	94.9	109.7	69.8	63	48.4	0	87.6
Volumes: Budget (YTD)	105.6	92.1	100.3	106.1	90.5	96.4	97.6	126.2	101.9
Volumes: Prior (YTD)	100.9	94.5	102.2	102.5	94.5	98	104.2	89.5	98.3
Employee Satisfaction	106.3	103.5	103.3	99.7	97.2	100.5	101	99.2	101.3
Turnover Rates (Annualize)	121.1	110.3	98.2	110.3	75.6	103.2	87.5	103.2	101.2
Total Percentage %	117.1	109.1	102.2	101.9	90.1	89.6	89.3	86.9	98.2
Totals	1990.69	1854.6	1737.56	1732.53	1531.37	1523.02	1517.59	1477.12	1670.8

Category Key X

Clinical Quality

Customer Satisfaction

Operational Excellence

Work Place Environment

<< Back to Scorecard Dashboard

Traffic Light Key X

100% Above Target

95 - 99.9% of Target

95% Below Target

Navigation Instructions

-Click any Objective Name to view category scorecard

-Click any score to view a calculation example



Daily Flash Report

[Balanced Performance Scorecard >>](#)

View Previous 3 Months: [February](#) | [January](#) | [December](#)

[Traffic Light Dashboard](#) | [Data Map](#) | [Flash Notifier](#) | [About Daily Flash](#)

(All Facilities): Summary

Report Date: 3/21/05

View Facility: <input type="text" value="All"/>		Previous Day	Report Day	Report Month March				PY Same Month
Status	Key Indicator	3/20/05	3/21/05	MTD	Projected	Budget	% Var.	PY Same Month
--	Patient Days	1913	2082	43,290	64,066	64,286	-0.3%	59,814
■	ALOS	9.5	6.4	5.8	5.8	5.8	0.0%	5.7
■	Admits	204	432	7,384	11,060	10,999	0.6%	10,479
■	Discharges	202	323	7,456	11,135	10,999	1.2%	10,479
■	OP Diagnostic & Therapeutic Reg.	59	1625	23,561	35,944	31,468	14.2%	31,997
■	ER Visits (Log)	914	938	18,696	27,538	28,960	-4.9%	27,991
■	IP Revenue (\$000's)†	5,365	10,300	200,733	300,444	298,822	0.5%	281,750
■	OP Revenue (\$000's)†	999	4,866	79,317	120,147	105,888	13.5%	105,576
■	Gross Revenue (\$000's)†	6,364	15,166	280,049	420,591	404,709	3.9%	387,326
■	ER Dept. Revenue (\$000's)*	84	741	15,256	22,936	18,720	22.5%	19,947
--	Debit Balance (\$000's)	768,566	770,205	--	--	--	--	--
--	Credit Balance (\$000's)	-18,838	-18,071	--	--	--	--	--
--	Total Unbilled Balance (\$000's)	152,117	152,696	--	--	--	--	--
■	Payer Mix (Managed Care %)	31.9%	39.2%	38.1%	38.2%	39.2%	-2.5%	--
--	ER Dept. Payer Mix (Managed Care %) **	24.9%	32.8%	32.7%	32.8%	--	--	--
--	Case Management Outcomes	--	--	--	--	--	--	--
--	Daily Executive Reports (ResQ)	--	--	--	--	--	--	--
Patient Satisfaction		Week End.	Week End.	FYTD		Goal	Variance	
		3/5/05	3/12/05	Avg				
○	Inpatient Satisfaction - Overall	84.7	81.2	83.3	--	83.7	-0.4	--
○	Outpatient Satisfaction - Overall	87.9	88.7	88.5	--	89.6	-1.1	--

+ View Traffic Light Legend: Key Indicators

+ View Traffic Light Legend: Patient Satisfaction

†Revenue Retabulated Weekly

*ER Dept. Rev is a subset of OP

**Includes Acute Facilities Only

Healthcare Technology/Information Management

Conclusion

- **Technology Highly Pervasive**
- **Biomedical and IT Convergence**
- **Ties to Operational Excellence**
- **Ties to Customer Experience**
- **Ties to Physician and Market (Service Line) Integration**
- **Ties to Growth/Innovation**
- **Ties to Clinical Transformation**

****Emerging role of the Clinical Informaticist**

Healthcare Technology/Information Management

Healthcare Stimulus Bill Forecast

****Federal mandates by 2015: American Reinvestment and Recovery Act, Health Information Technology for Economic and Clinical Health Act**

- The legislation includes roughly \$30 billion in spending on Medicare and Medicaid incentives for the “meaningful use” of certified HER’s
- The legislation utilizes both a “carrot and stick” approach
- Incentive payments for use of healthcare IT begin in 2011
- Penalties for non-compliance begin in 2015