Health Information Technology
Program Assessment Report for 2014-15

Part I – Executive Summary

The student learning outcomes for the Associate of Science degree in Health Information Technology are prescribed by the American Health Information Management Association (AHIMA). Demonstration of these outcomes is required in order to maintain the College's HIT program accreditation by the Commission on Accreditation of Health Information and Informatics Management Education (CAHIIM). In total there are 56 student learning outcomes which are mapped to the HIT course(s) in which the content is primarily taught. Student learning outcomes assessment in the Health Information Technology program is undertaken in a sequential course level approach. The rationale for this approach is to learn from the assessment undertaken in these courses to inform subsequent courses. Faculty believe this approach will best serve current and future students by improving the curriculum concurrently rather than relying on assessment data from capstone courses to inform lower level courses. In the 2014-15 academic year HIT program assessment focused on three courses; HIT 101 Introduction to Health Information Technology, HIT 200 Statistical Applications in Healthcare, and HIT 230 Computer Information Systems for HIT. For each course, the course coordinator was responsible for identifying the assessments used to measure student learning and, in collaboration with the Academic Assessment Analyst, developed the assessment plan.

In HIT 101, the final lab assignment results were used to measure student learning outcomes. outlined in Part II.

In HIT 200, Microsoft Excel independent challenge modules, the statistical brief assignments, and the Healthcare Utilization Project Assignment (HCUP) were used to assess student learning outcomes.

In HIT 230, a midterm exam was used to assess student learning.

Part II – The Current Year

HIT 101 Introduction to Health Information Technology

The following outcomes were measured in the evaluation of HIT101- Introduction to Health Information Technology

Course Level Outcome 7	State how information technology supports the functions of healthcare delivery
Course Level Outcome 5	Evaluate the complexity of the current delivery mechanisms, systems, and regulations involving healthcare

Assignment Level Objective: Explain the ICD-10-CM coding system	Explain the ICD-10-CM coding system
Assignment level Objective: Discuss the current status of implementation of the ICD-10-CM coding system in the United States	Discuss the current status of implementation of the ICD-10-CM coding system in the United States
Common Employability Skill: Writing	Writing
Common Employability Skill: Problem Solving	Problem Solving

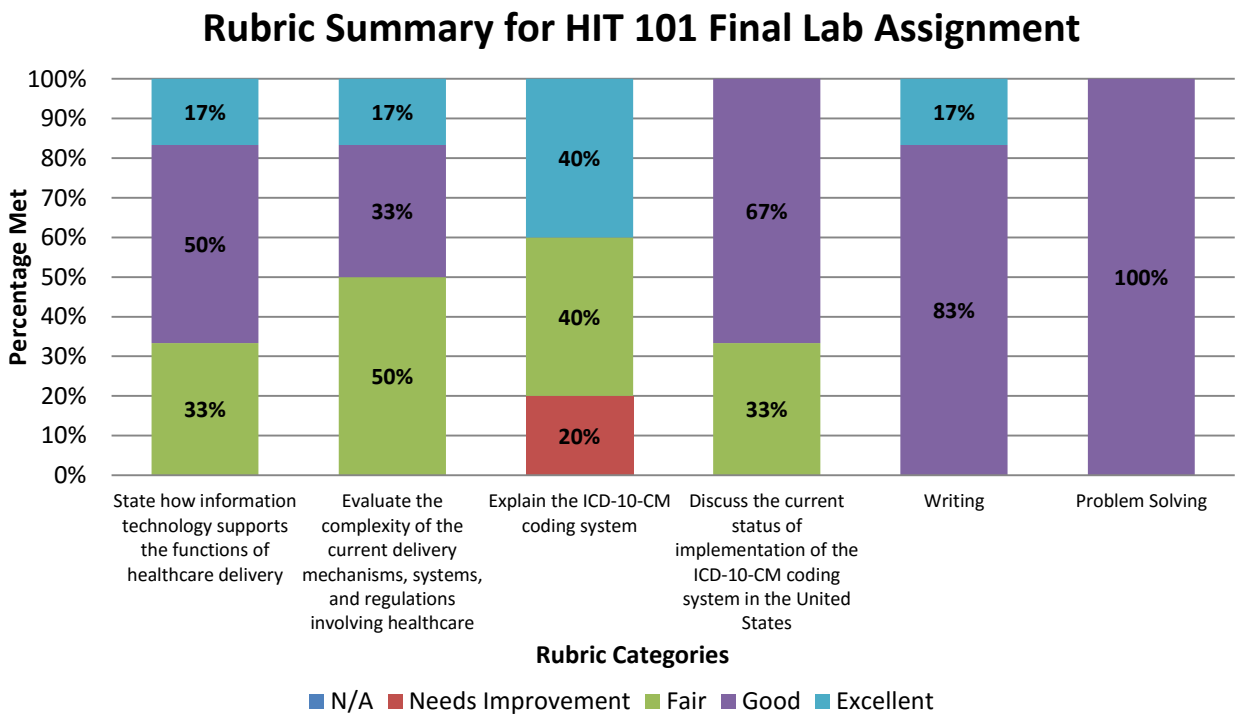
Final Lab assignment was used for the evaluation, using the following rubric

Program Learning Outcome	Criteria	1	2	3	4
	Course Level Objective: State how information technology supports the functions of healthcare delivery	● Content shows little or no evidence that reading were completed or understood. ● Content is largely personal opinions or feelings, or "I agree" or "Great idea", without supporting statements with concepts from the readings, outside resources, relevant research, or specific real-life application.	● Content repeat and summarize basic, correct information, but do not link readings to outside references, relevant research and do not consider alternative perspectives or connections between ideas. ● Sources are not cited.	● Content display an understanding of the required readings & underlying concepts ● Correct use of terminology ● Proper citation.	● Content display an excellent understanding of the required readings & underlying concepts including correct use of terminology. ● Content integrate an outside resource, or relevant research, to support important points. ● Well-edited quotes are cited appropriately. ● No more than 10% of the posting is a direct quotation.

	Course Level Objective: evaluate the complexity of the current delivery mechanisms, systems, and regulations involving healthcare	● The pertinent legislature is addressed	● The pertinent legislature is addressed ● The applicable healthcare settings identified.	● The pertinent and current legislature is addressed and explained ● The applicable healthcare settings identified	● Thoroughly addresses the most current and relevant legislature, explaining the strengths and weaknesses ● The applicable healthcare settings identified and explained.
	Assignment Level Objective: Explain the ICD-10-CM coding system	● The ICD-10 coding system is defined ● The comparison between ICD-10 and ICD-9 is presented	● The ICD-10 coding system is defined ● The differences between ICD-10-CM and ICD-10-PCS are identified. ● The comparison between ICD-10 and ICD-9 is presented	● The ICD-10 coding system is defined and described. ● The differences between ICD-10-CM and ICD-10-PCS are identified. ● The comparison between ICD-10 and ICD-9 is presented	● The ICD-10 coding system is defined and described. ● The differences between ICD-10-CM and ICD-10-PCS are identified and explained ● The comparison between ICD-10 and ICD-9 is presented
	Assignment level Objective: Discuss the current status of implementation of the ICD-10-CM coding system in the United States	● One or less healthcare settings addressed ● The national implementation plan is not addressed	● Some of the applicable healthcare settings are addressed ● The national implementation plan is partially addressed	● Some of the applicable healthcare settings are addressed ● The national implementation plan is detailed	● The applicable healthcare settings are addressed ● The national implementation plan is detailed
	Common Employability Skill: Writing:	● Poor writing skills; the number of spelling and/or grammatical errors significantly detracts from readability of the posting.	● Much of the writing is characterized by grammatical and/or spelling errors	● Student demonstrates good writing skills; content contains some grammatical and or spelling/punctuation errors.	● Student demonstrates strong writing skills, no grammar or spelling errors.

	Common Employability Skill: Problem Solving	● No original ideas, insights, or reflections.	● Original ideas were limited to simple statements of agreement (i.e. "The book says X and I agree.") or disagreement. ● No explanations for his/her opinion. ● Response lacked insight or personal reflection. ● Contribution is factually correct but lacks full development of concept or thought	● Demonstrated ability to synthesize student's own ideas or opinions into the course material ● Offered only superficial reflections into student's professional growth.	● Synthesized student's own unique ideas into the course material. ● Showed mature, professional, and insightful reflection on student's academic & career development.

Findings for the FY1415 of spring 2015 Session 3 HIT 101- Introduction to Health Information Technology are as follows:



Evaluation:

1. The assignment was completed by 6 students
2. Course Level outcomes presented mixed results
3. Course level outcome requiring the explanation of the ICD-10-CM coding system presented with the lowest scores.
4. Common employability standards presented with the highest scores.
2. Average grade for the assignment was 71%

HIT 230 Computer Systems for HIT

The following outcomes were measured in the evaluation of HIT230 – Computer Systems for Information Technology

1. Use technology, including hardware and software, to ensure data collection, storage, analysis, and reporting information.
2. Use common software application such as spreadsheets, databases, word processing, graphics, presentation, e-mail, and so on in the execution of work processes
3. Use specialized software in the completion of HIM processes such as record tracking, release of information, coding, grouping, registries, billing, quality improvement, and imaging.
4. Apply policies and procedures to the use of networks, including the intranet and Internet applications to facilitate the electronic health record (EHR), personal health record (PHR), public health, and other administrative applications.
5. Participate in the planning, design, selection, implementation, integration, testing, evaluation, and support for EHRs
6. Apply knowledge of database architecture and design (such as data dictionary) to meet departmental needs.
7. Use appropriate electronic or imaging technology for data/record storage.
8. Query and generate reports to facilitate information retrieval using appropriate software.
9. Apply retention and destruction policies for health information.
10. Apply confidentiality and security measures to protect electronic health information
11. Protect data integrity and validity using software and hardware technology.
12. Apply departmental and organizational data and information system security policies.
13. Use and summarize data compiled from audit trails and data quality monitoring programs.

Findings for the FY1415 of fall 2014 Session 1 HIT230 – Computer Systems for Information Technology are as follows:

Midterm Exam Summary		
Course Outcome	**% Correct**	**Average % Correct**
1. Use technology, including hardware and software, to ensure data collection, storage, analysis, and reporting information.		
Q3	100%	99%
Q6	100%	
Q7	100%	
Q8	100%	
Q62	100%	

Q9	96%	
2. Use common software application such as spreadsheets, databases, word processing, graphics, presentation, e-mail, and so on in the execution of work processes		
Q69	96%	92%
Q70	96%	
Q51	83%	
3. Use specialized software in the completion of HIM processes such as record tracking, release of information, coding, grouping, registries, billing, quality improvement, and imaging.		
Q58	100%	94%
Q61	100%	
Q65	100%	
Q2	96%	
Q27	96%	
Q28	96%	
Q30	96%	
Q53	96%	
Q54	92%	
Q68	92%	
Q57	88%	
Q67	75%	
4. Apply policies and procedures to the use of networks, including the intranet and Internet applications to facilitate the electronic health record (EHR), personal health record (PHR), public health, and other administrative applications.		
Q4	100%	93%
Q25	100%	
Q29	96%	
Q26	92%	
Q59	92%	
Q22	88%	
Q24	88%	
Q52	88%	
5. Participate in the planning, design, selection, implementation, integration, testing, evaluation, and support for EHRs		
Q35	100%	96%
Q31	96%	
Q33	96%	
Q37	96%	
Q38	96%	

Q39	96%	
Q40	96%	
Q21	92%	
6. Apply knowledge of database architecture and design (such as data dictionary) to meet departmental needs.		
Q36	100%	95%
Q41	96%	
Q49	96%	
Q60	96%	
Q23	92%	
Q32	92%	
Q63	92%	
7. Use appropriate electronic or imaging technology for data/record storage.		
Q44	100%	97%
Q10	96%	
Q43	96%	
8. Query and generate reports to facilitate information retrieval using appropriate software.		
Q47	96%	94%
Q66	96%	
Q34	92%	
Q46	92%	
9. Apply retention and destruction policies for health information.		
Q42	96%	90%
Q50	96%	
Q45	79%	
10. Apply confidentiality and security measures to protect electronic health information		
Q56	79%	79%
11. Protect data integrity and validity using software and hardware technology.		
Q1	96%	94%
Q48	96%	
Q64	92%	
12. Apply departmental and organizational data and information system security policies.		
Q5	92%	92%
13. Use and summarize data compiled from audit trails and data quality monitoring programs.		

Q55	83%	83%

Final Exam Summary		
Course Outcome	**% Correct**	**Average % Correct**
1. Use technology, including hardware and software, to ensure data collection, storage, analysis, and reporting information.		
Q24	100%	96%
Q12	96%	
Q7	92%	
2. Use common software application such as spreadsheets, databases, word processing, graphics, presentation, e-mail, and so on in the execution of work processes		
Q58	96%	96%
3. Use specialized software in the completion of HIM processes such as record tracking, release of information, coding, grouping, registries, billing, quality improvement, and imaging.		
Q8	100%	94%
Q14	100%	
Q53	100%	
Q4	96%	
Q20	96%	
Q22	96%	
Q25	96%	
Q30	96%	
Q52	96%	
Q56	96%	
Q3	92%	
Q26	67%	
4. Apply policies and procedures to the use of networks, including the intranet and Internet applications to facilitate the electronic health record (EHR), personal health record (PHR), public health, and other administrative applications.		
Q9	100%	97%
Q19	100%	
Q28	100%	
Q54	100%	
Q60	100%	
Q61	100%	
Q5	96%	
Q6	96%	

Q11	96%	
Q13	96%	
Q18	96%	
Q49	96%	
Q55	96%	
Q10	92%	
5. Participate in the planning, design, selection, implementation, integration, testing, evaluation, and support for EHRs		
Q15	100%	97%
Q42	100%	
Q44	100%	
Q45	100%	
Q43	96%	
Q46	96%	
Q48	96%	
Q47	92%	
6. Apply knowledge of database architecture and design (such as data dictionary) to meet departmental needs.		
Q17	96%	96%
7. Use appropriate electronic or imaging technology for data/record storage.		
Q59	100%	94%
Q1	96%	
Q16	96%	
Q21	96%	
Q23	96%	
Q2	83%	
8. Query and generate reports to facilitate information retrieval using appropriate software.		
Q29	96%	71%
Q50	96%	
Q27	46%	
Q51	46%	
9. Apply retention and destruction policies for health information.		
Q40	42%	42%
10. Apply confidentiality and security measures to protect electronic health information		
Q38	96%	85%
Q39	96%	

Q36	88%	
Q41	63%	
11. Protect data integrity and validity using software and hardware technology.		
Q57	100%	98%
Q32	96%	
12. Apply departmental and organizational data and information system security policies.		
Q33	100%	94%
Q34	96%	
Q31	88%	
13. Use and summarize data compiled from audit trails and data quality monitoring programs.		
Q37	100%	94%
Q35	88%	

Evaluation

1. In the evaluation of the Midterm scores, the learning objective of "Apply confidentiality and security measures to protect electronic health information" was not met. The same objective was met as reflected in the evaluation of the Final exam scores.
2. The following objectives were not met at the 75% rate:
    a. Query and generate reports to facilitate information retrieval using appropriate software (71%)
    b. Apply retention and destruction policies for health information (42%)

HIT 200 Statistical Applications in Healthcare

In HIT 200 Statistical Applications in Healthcare the following course level outcomes were measured:

a) Collect, maintain and report data for clinical indices/databases/registries to meet specific organization needs such as medical research and disease registries

b) Collect, organize and present data for quality management, utilization management, risk management and other related studies.

c) Comprehend basic descriptive, institutional and healthcare vital statistics.

d) Abstract and report data for facility-wide quality management and performance improvement programs

e) Analyze clinical data to identify trends that demonstrate quality, safety, and effectiveness of healthcare data for facility-wide quality management and performance improvement programs.

Three course level assessments were used in HIT 200 to assess student learning.

a) Microsoft Excel Modules: Designed for students in medical office administration and allied health programs, MICROSOFT EXCEL 2010 FOR MEDICAL PROFESSIONALS teaches introductory Microsoft Excel 2010 skills. This book includes real world examples and projects within a case study related to the medical industry, providing students with the Excel skills necessary to successfully support the front or back office of a clinic, hospital, or medical practice. (http://www.cengage.com/search/productOverview.do?Ntt=16422350086400511771213390195774668351&N=15+4294920897+4294922458&Ntk=P_EPI#Overview)

   Completion of the modules below is designed to specifically assess all course level student learning outcomes.

   Office Unit A: Getting Started with Office 2010.
   Unit A: Getting Started with Excel 2010.
   Unit B: Working with Formulas and Functions.
   Unit C: Formatting a Worksheet.
   Unit D: Working with Charts.
   Unit E: Analyzing Data Using Formulas.
   Unit F: Managing Workbook Data.
   Unit G: Managing Data Using Tables.
   Unit H: Analyzing Table Data.

b) Statistical Brief Assignments: HCUP Statistical Briefs provide health care statistics on hospital inpatient stays, emergency department visits, and ambulatory surgeries. Topics include medical conditions treated, procedures performed, patient populations served, and quality of care. Information is presented in tables and figures, accompanied by explanatory text. (http://hcup-us.ahrq.gov/reports/statbriefs/sbtopic.jsp)

   Five statistical briefs are selected by the instructor. Students are required to read and summarize the statistical brief in a concise, well written and accurate summary. See Appendix A. Reading & Analyzing Information: Rubric for Statistical Briefs

c) Healthcare Utilization Project Assignment (HCUP): HCUPnet is an on-line query system that gives students instant access to the largest set of all-payer health care databases that are publicly available. Using HCUPnet's easy step-by-step query system, students can generate tables and graphs on national and regional statistics and trends for community hospitals in the U.S. In addition, community hospital data are available for those States that have agreed to participate in HCUPnet. HCUPnet is part of the Healthcare Cost and Utilization Project (HCUP) of the Agency for Healthcare Research and Quality (AHRQ). HCUPnet generates statistics using data from HCUP's Nationwide Inpatient Sample (NIS), the Kids' Inpatient Database (KID),

the State Inpatient Databases (SID) and the State Emergency Department Databases (SEDD). (http://hcup-us.ahrq.gov/overviewcourse.jsp)

Completion of the self-paced online tutorial and accompanying assignment below is designed to specifically assess all course level student learning outcomes.

Assessment Results:

a) Microsoft Excel Modules

Results are from sessions 2, 3, and 5.

Note: Only challenge completers are counted for assessment				
	All	Completers Only	Completers Only (13-14)	Improvement
Module A: Getting Started with Excel 2010	88%	97%	96%	+1%
Module B: Working with Formulas and Functions	87%	98%	95%	+3%
Module C: Formatting a Worksheet	85%	98%	92%	+6%
Module D: Working with Charts	86%	97%	94%	+3%
Module E: Analyzing Data Using Formulas	68%	88%	90%	-2%
Module F: Managing Workbook Data	85%	100%	93%	+7%
Module G: Managing Data Using Tables	NA	NA	97%	NA
Module H: Analyzing Table Data	NA	NA	NA	NA

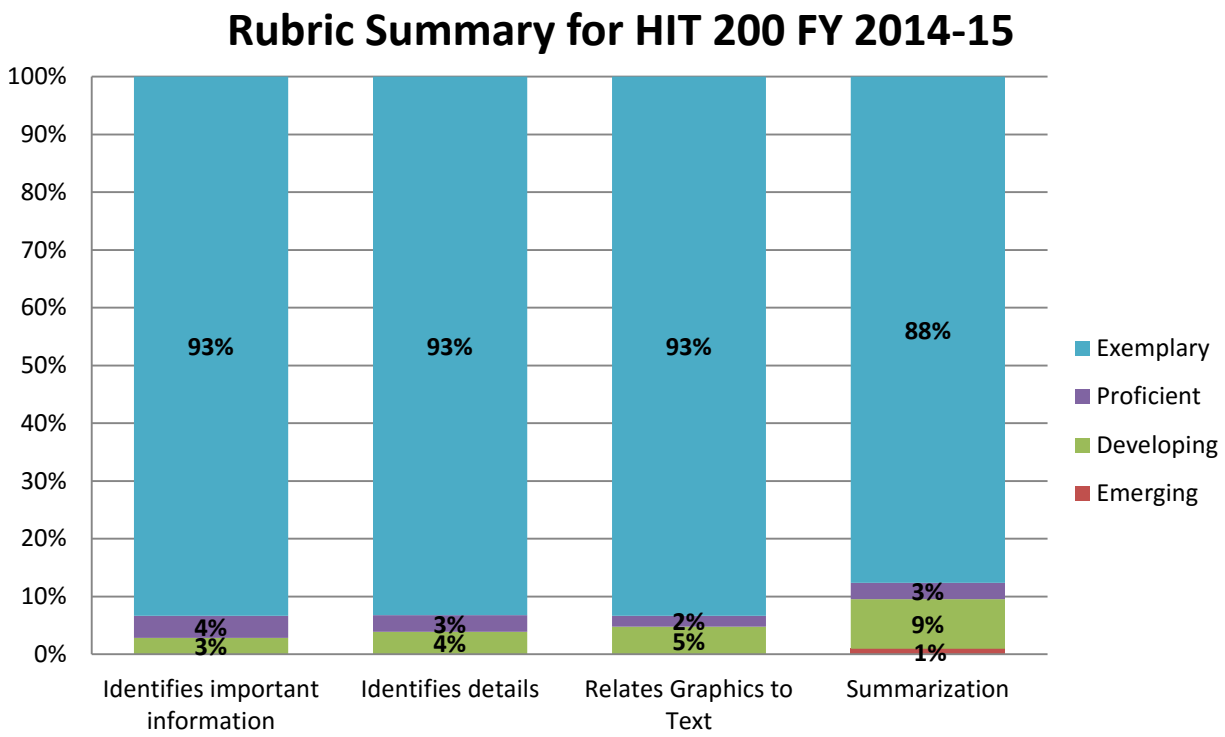
Findings:

In comparing Completer scores for each Module, student scores improved in all Modules except for Module E: Analyzing Data Using Formulas.

Actions Planned for Improvement:

Moving forward, faculty who teach this course will continue to provide personalized audio-visual feedback using Camtasia. Faculty expect to see scores remain stable in all Modules and expect an improvement in scores for Module E.

b) Statistical Brief Assignments



Based on data from session 5, 2 and 3

Findings:

The findings are positive. In 2014-15, the percentage of students who scored "Exemplary" improved in all four areas.

Actions Planned for Improvement:

There are no plans for improvement at this time.

c) HCUP Assignment

	Q1		Q2			Q3		Q4			Q5			Q6		
	Q1A	Q1B	Q2A	Q2B	Q2C	Q3A	Q3B	Q4A	Q4B	Q4C	Q5A	Q5B	Q5C	Q6A	Q6B	Q6C
Percentage Correct for subquestion	72%	84%	96%	96%	94%	96%	54.5%	96%	96%	92%	84%	88%	92%	94%	94%	90%
Percentage Correct for question	79%		95%			68%		95%			88%			93%		

	Q7			Q8	Q9	Q10	Q11	Q12
	Q7A	Q7B	Q7C	Q8	Q9	Q10	Q11	Q12
Percentage Correct for subquestion	96%	92%	88%	94%	91%	89%	73%	78%
Percentage Correct for question	92%			94%	91%	89%	73%	78%

Findings:
An improvement in student scores was noted in 2014-15.

Actions Planned for Improvement:
The instructions for this assignment have been modified to communicate that each question contains multiple parts.

Part III – The Coming Year

Part IV – Other Program Assessment Activities

Appendix A.

HIT 200 - Healthcare Statistics

Reading & Analyzing Information: Rubric for Statistical Briefs

CATEGORY	4	3	2	1	*Students Score*
Identifies important information	Student lists all of the main points in the brief.	The student lists most of the main points in the brief.	The student lists some of the main points in the brief.	The student does not list any of the main points in the brief.	
Identifies details	Student includes details for each main point referenced in the brief.	Student includes most details for the main points referenced in the brief.	Student includes some details for each main point referenced in the brief.	Student omits details of the main points referenced in the brief.	
Relates Graphics to Text	Student accurately explains how each graphic/diagram is related to the text, and accurately determines whether each graphic/diagram agrees with the information in the text.	Student accurately explains how each graphic/diagram is related to the text.	Student accurately explains how some of the diagrams are related to the text.	Student has difficulty relating graphics and diagrams to the text.	
Summarization	Student accurately describes the brief in a two page, double-spaced summary.	Student uses several sentences to accurately describe what the article is about.	Student summarizes most of the article accurately, but has some slight misunderstanding.	Student has great difficulty summarizing the article.	

Appendix B. Healthcare Utilization Project (HCUP) Assignment

Question 1. Define HCUP and AHRQ (2 pts.).
Explain how and by whom the tools and databases shown in this tutorial are used (3 pts.)

Question 2. Discuss the State Inpatient Database (SID)
a. What type of information is contained within the SID? (2 pts.)
b. Where does the data originate that ultimately populates or ends up in the SID? (2 pts.)
c. How might a researcher use the SID? (2 pts.)

Question 3. Discuss the Nationwide Inpatient Sample (NIS)
a. What type of information is contained within the NIS? (2 pts.)
b. What is meant by adjusting for severity of illness? Give an example of how the adjustment is done. (4 pts.)

Question 4. Discuss the Kid's Inpatient Database (KID)
a. What type of information is contained within the KID? (2 pts.)
b. Where does the data originate that ultimately populates or ends up in the KID? (2 pts.)
c. How might a researcher use the KID? (2 pts.)

Question 5. Discuss the State Ambulatory Surgery Databases (SASD)
a. What type of information is contained within the SASD? (2 pts.)
b. Where does the data originate that ultimately populates or ends up in the SASD? (2 pts.)
c. How might a researcher use the SASD? (2 pts.)

Question 6. Discuss the State Emergency Department Databases (SEDD)
a. What type of information is contained within the SEDD? (2 pts.)
b. Where does the data originate that ultimately populates or ends up in the SEDD? (2 pts.)
c. How might a researcher use the SEDD? (2 pts.)

Question 7. Discuss the Nationwide Emergency Department Sample (NEDS)
a. What type of information is contained within the NEDS? (2 pts.)
b. Where does the data originate that ultimately populates or ends up in the NEDS? (2 pts.)
c. How might a researcher use the NEDS? (2 pts.)

Question 8. Visit http://hcupnet.ahrq.gov/ and perform a query on one of the selections under Statistics on Hospital Stays. (10 pts)
What did you query?
What did the query reveal?
How could the results of your query be used?

Question 9. Visit http://hcupnet.ahrq.gov/ and perform a query on one of the selections under Hospital Readmission. (10 pts)
What did you query?
What did the query reveal?
How could the results of your query be used?

Question 10. Visit http://hcupnet.ahrq.gov/ and perform a query on one of the selections under Statistics on Emergency Department Use. (10 pts)
What did you query?
What did the query reveal?
How could the results of your query be used?

Question 11. Visit http://hcupnet.ahrq.gov/ and perform a query on one of the selections under Hospitals Like Mine. (10 pts)
What did you query?
What did the query reveal?
How could the results of your query be used?

Question 12. Visit http://hcupnet.ahrq.gov/ and perform a query on one of the selections under AHRQ Quality Indicators. (10 pts)
What did you query?
What did the query reveal?
How could the results of your query be used?