

Name (print clearly): _____

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Principles of Pharmacy Practice Management and Pharmacoeconomics

Exam II

Thursday, , 2014

INSTRUCTIONS:

1. Print your name and Pin number on the First page of this exam. Sign your name below after reading this page. You must print your name and PIN number on the scantron form.
2. This exam is **50** questions and **11** pages in length.
3. Examination time is from **3:00 P.M.-4:00 P.M.**
4:00 P.M.-5:00 P.M.
4. All answers must be on the computer scored answer sheets. (Complete on the computer sheet the student PIN, last name, first name, middle initial).
5. When the exam is completed, insert the scantron sheet into test and turn it in as a single document.
6. This is a closed exam. No part of this examination may be reproduced, copied or transmitted in any form or by any means, including, but not limited to mechanical or handwritten means; and including, but not limited to photocopying, microfilming and recording or by any information storage and retrieval system. This is specifically shall include committing any part of this examination to memory with subsequent reducing to writing. This is a closed exam. Reproducing in any form is an honor code violation.
7. Do not discuss exam questions. Everyone has not taken the test today.
8. Failure to comply with the above instructions may jeopardize correct grading of your exam.

Sign Your Name to acknowledge you have Read the Information on this Page:

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1. All of the following are defined by the Joint Commission as unapproved abbreviations except:
 - a. QD
 - b. QOD
 - c. U

- d. **IU**
 - e. All are unapproved abbreviations
2. While just beginning her shift, a nurse noticed a different patient's TPN running on her patient. Both patients had the same last name and upon investigation, the nurse discovered their TPNs had been switched when they were hung the night before. One of the patient's accucheck's was elevated and required increase monitoring for a few hours. The other patient had no adverse effects. The nurse reported the error in the hospital's medication error reporting system for further evaluation of the error. Which of the following would be the appropriate NCC MERP medication error category for this error?
 - a. Category A
 - b. Category B
 - c. Category D
 - d. **Category E**
 - e. Category F
 3. Which of the following are classified as high alert medications by the Institute for Safe Medication Practices?
 - a. Concentrated potassium chloride
 - b. Insulin
 - c. Acetaminophen
 - d. **A and B**
 - e. A, B, and C
 4. ISMP self-assessments include items addressing medication use that are recommended by ISMP in response to analysis of events reported in the USP Medication Error Reporting Program and allow for comparison of processes with similar organizations.
 - a. **True.**
 - b. False.
 5. Which of the following are recommendations presented in the 2006 Institute of Medicine Report concerning reduction of medication errors?
 - a. Increasing communication between providers and patients concerning their medications and health care.
 - b. Increasing use of information technologies in prescribing and dispensing
 - c. Pharmacist participation in interdisciplinary teams
 - d. **A and B**
 - e. A, B, and C
 6. Six Sigma allows the following number of defects:
 - a. 3.4 per 1000 opportunities
 - b. 3.4 per 100 opportunities
 - c. 6 per million opportunities
 - d. **3.4 per million opportunities**

- e. 6 per 1000 opportunities
7. The Pareto Chart is typically used to determine if a process is in control or not:
- a. True.
 - b. False.**
8. Failure Mode and Effects Analysis is typically used to analyze an error that has already occurred:
- a. True.
 - b. False.**
9. Root Cause Analysis uses a punitive approach to error prevention:
- a. True.
 - b. False.**
10. A scatter diagram can be used to help determine if there is a relationship between two different types of data:
- a. True.**
 - b. False.
11. Which of these items is a function of the P&T Committee?
- a. Develops policies on the use of medications in the institution or health plan**
 - b. Meets with manufacturer representatives to discuss new drugs
 - c. Discusses the most recent articles published in *New England Journal of Medicine* and *JAMA*
 - d. Develops hospital guidelines on hand hygiene
12. Which of the following medications is most likely to be placed on a hospital formulary?
- a. New medication that is the same cost as the current formulary alternative but has to be hand admixed and is given 4 times a day.
 - b. New medication that is more expensive than current formulary alternative and has equivalent efficacy
 - c. New medication that is more expensive than current formulary alternative and is less efficacious
 - d. New medication that is more expensive than current formulary alternative but is more efficacious and safer**
13. Which of the following is a benefit of the formulary system?
- a. Less patient confusion
 - b. Increased safety**
 - c. Physician satisfaction
 - d. Increased cost

14. Which of the following is TRUE about non-formulary drugs?
- Non-formulary drugs should never be used when there is a formulary established.
 - Physicians should be able to use any non-formulary drug whenever they want.
 - There should be a process for reviewing and using non-formulary drugs.**
 - It should be easy to obtain a drug is not really needed.
15. Which of the following is the “best” resource for locating clinical practice guidelines?
- Micromedex
 - Google
 - National Guidelines Clearinghouse**
 - Facts and Comparison
16. Clinical Guidelines are most likely to be developed by which of the following sources:
- Professional organizations like the American Heart Association**
 - The Joint Commission
 - Small rural hospitals
 - Lexicomp Drug Information Database
17. Why is the perspective (or viewpoint) of a pharmacoeconomic evaluation critically important?
- It helps determine the relevant costs and outcomes that must be considered in the analysis.**
 - It helps to assess the sensitivity of the outcome variables used in the study.
 - It should always be implicitly stated and therefore the study must be reviewed carefully to determine the perspective.
 - All of the above.
18. What are the two essential basic requirements for a full economic evaluation?
- At least two alternatives must be compared in the same analysis, and only costs should be considered
 - Alternatives should not be compared in the same analysis, and the evaluation must examine both costs and consequences
 - At least two alternatives must be compared in the same analysis, and the evaluation must examine both costs and consequences**
 - At least two alternatives must be compared in the same analysis, and only consequences should be considered
19. Which of the following statements are true?
- An evaluation of efficacy defines the ability of a drug to perform adequately under ideal circumstances (such as in a randomized clinical trial).

- II. An evaluation of effectiveness defines the ability of a drug to perform adequately under “real life” circumstances (such as in actual clinical practice).
 - III. Effectiveness is generally measured in randomized clinical trials.
- a. I only
 - b. II only
 - c. I and II only**
 - d. II and III only
 - e. I, II, and III
20. What is the best definition of health services research?
- a. The description and analysis of the costs and consequences of pharmaceutical products and/or services and their impact on individuals, health care systems, and society.
 - b. The study of how people get access to health care, how much care costs, and what happens to patients as a result of this care.**
 - c. The study of the end results of health services that take patients’ experiences, preferences, and values into account.
 - d. All of the above
21. Which of the following best describes a benefit of applying pharmacoeconomic principles and methods to pharmacy practice?
- a. Provides assistance in balancing costs and outcomes of drug therapy.
 - b. Provides support for resource allocation decisions.
 - c. Provides evidence for the cost-effective use of medications.
 - d. Provides an approach to assess the potential costs and benefits of a new service.
 - e. All of the above.**
22. What are the most common basic study designs for pharmacoeconomic studies?
- a. Observational
 - b. Experimental
 - c. Simulations
 - d. A and B only
 - e. A and C only**
23. Examples of direct medical costs include which of the following?
- a. Hospital costs**
 - b. Pain and suffering
 - c. Cost of travel time for clinic visits
 - d. Only (a) and (b)
 - e. All of the above
24. Which of the following can be used to describe an economic evaluation that examines both costs and consequences but does not compare alternatives?
- a. Cost description

- b. Cost analysis
 - c. Cost of illness analysis
 - d. Cost-outcome description**
 - e. Full economic evaluation
25. A new antifungal called wonderazole is approved for prophylaxis of fungal infections in immune compromised patients. Before formulary consideration, an extensive economic analysis is conducted. The analysis compares the cost of wonderazole to the cost of the 3 other azoles on formulary. The analysis considers many aspects beyond the acquisition cost (e.g. time to prepare, time to administer, reimbursement, and others). However, the analysis did not consider or compare the outcomes and consequences of the 4 azole antifungals. Is this analysis considered a full economic evaluation?
- a. Yes, it is a full economic evaluation because the analysis was extensive
 - b. Yes, it is a full economic evaluation because the analysis considered 4 alternatives
 - c. No, it is not a full economic evaluation because consequences were not considered**
 - d. No, it is not a full economic evaluation because the cost of fungal infections (cost of illness) was not included
26. When evaluating the pharmacoeconomic literature, which of the following should be reviewed closely?
- a. Study objective
 - b. Measurement of costs and consequences
 - c. Whether or not a sensitivity analysis was done
 - d. The perspective of the study
 - e. All of the above**
27. Which of the following are factors that drive the growth in overall medication expenditures?
- a. "Mix"
 - b. Price inflation
 - c. Utilization
 - d. Blend of utilization and "mix"
 - e. All of the above**
28. You recently became the Director of Pharmacy at a 225-bed community hospital where drug costs have recently risen at an annual rate of 22%. Since you are the first permanent pharmacy director in the past 3 years, the department is in total disarray. There are millions of dollars of excess inventory on the shelf, doses of expensive drugs are frequently lost and never reach the patient, and the pharmacy provides limited clinical services. Which action should you take first to help control drug costs at your institution?
- a. Hire a clinical manager and 5 new clinical pharmacists to develop comprehensive clinical services
 - b. Work with the fiscal department to make sure billing is being conducted appropriately
 - c. Quit your new job– the situation is utterly hopeless

- d. Conduct a comprehensive physical inventory, Review normal drug use patterns, and eliminate excess drugs on the shelves**
29. Total United States prescription drug expenditures:
- Have grown only because drug utilization has increased from the aging of the population
 - Is one of the fastest growing segments of United States health care expenditures, but recently the growth in drug expenditures has moderated.**
 - Comprise over 40% of total United States health care costs
 - A and B
 - All of the above
30. Which of the following statements are true regarding recent trends in drug expenditures?
- Drug cost growth has moderated in the last few years, and therefore managing drug expenditures is no longer a concern
 - Drug expenditure patterns are changing such that “blockbusters” are become less common and drug expenditures increase mainly because of innovative and specialized therapies**
 - Over the last 10 -15 years, drug expenditures have always increased at the same rate as overall inflation and overall health care expenditures
 - All of the above
31. Which of the following have contributed to the recent moderation in prescription drug expenditure growth?
- Increasing availability of widely used generic drugs
 - A decline in the approval of new molecular entities
 - Changes in prescription drug plans have shifted drug costs to patients
 - Safety concerns have stopped or slowed the use of high cost drugs
 - All of the above**
32. Based on the most recently published systematic reviews of economic evaluations of clinical pharmacy services, what is the approximate mean benefit-to-cost ratio for clinical pharmacy services?
- \$4 to \$1 (every dollar spent on clinical pharmacy services returns \$4),**
 - \$1 to \$1 (every dollar spent on clinical pharmacy services returns \$1),
 - \$30 to \$1 (every dollar spent on clinical pharmacy services returns \$30),
 - \$95 to \$1 (every dollar spent on clinical pharmacy services returns \$95),
33. Regarding the article "Evidence-Based Core Clinical Pharmacy Service in the United State Hospitals in 2020: Services and Staffing" by Bond , Raehl, and Patry; the 5 core clinical pharmacy services to provide (based on favorable patient health care outcomes) were drug information, adverse drug reaction management, drug protocol management, medical rounds participation, and patient admission histories.
- True.**
 - False.

34. To assure successful and comprehensive pharmacy services, the best sequencing of services is as follows: Clinical services, drug distribution and control systems, education, and research:
- True.
 - False.**
35. Clinical pharmacy services provided by highly specialized practitioners aimed at select patient populations is an example of:
- Class I clinical pharmacy services,
 - Class II clinical pharmacy services,
 - Class III clinical pharmacy services,
 - Class IV clinical pharmacy services,**
 - None of the above
36. The following are examples for uses of a Pharmacy Service Business Plan: ambulatory pharmacy services, home health care pharmacy services, extended care pharmacy services, MTM services, compounding services:
- True.**
 - False.
37. Which of the following is not a major component of a Business Plan?
- Management Team
 - Operations
 - Executive Summary
 - Logistics of Supply Chain**
 - Marketing
38. The Annual Report of an organization/corporation is known as a 10-K Report:
- True.**
 - False.
39. The optimal proposal format sequence is:
- Introduction, Action Plan, Recommendations, Summary
 - Summary, Introduction, Recommendations, Action Plan
 - Action Plan, Introduction, Recommendations, Summary
 - Introduction, Recommendations, Action Plan, Summary**
40. A SWOT Analysis is a tool which can be used to help implement clinical pharmacy services. Specifically, it is used to:
- evaluate strengths
 - understand areas of weakness
 - identify opportunities
 - understand threats
 - all of the above**
41. The Asheville Project involved pharmacists managing diabetes drug therapy of city employees that resulted in improved therapeutic outcomes and reduced health care costs;

- a. **True**
 - b. False
42. The ECHO model is often used to describe pharmacoeconomic outcomes of interest. ECHO is an abbreviation for:
- a. Evaluative, Clinical, and Humanistic Outcomes
 - b. Economic, Clinical, and Humane Outcomes
 - c. **Economic, Clinical, and Humanistic Outcomes**
 - d. Evaluating, Clinically, and Humane Outcomes
43. Which of the following is NOT an advanced service of a PBM on the continuum of PBM services in Dr. Paul's lecture:
- a. Benefit Design Planning
 - b. Disease State Management / Wellness Management
 - c. **Prescription Claims Processing**
 - d. Patient Medication Adherence Programs
44. The job responsibilities of a PBM Clinical Client Advisor per Dr. Paul's lecture includes:
- a. dispensing of prescriptions to patients
 - b. patient chart review of long term care facility patients
 - c. Coumadin counseling
 - d. **clinical liaison with payors advising on formulary drug selection and prescription benefit plan design**
45. Imagine you are working as a PBM clinical pharmacist helping FedEx design the ideal pharmacy benefit plan for its employees. Which of the following components would you NOT include?
- a. Periodic actionable review of drug utilization patterns through data collection and reporting
 - b. Fair and reasonable member cost sharing/copays based on cost-effective, clinically appropriate use of medications
 - c. Incentives to encourage the use of health information technology by providers and patients
 - d. **Exclusion of expensive cardiovascular medications in order to increase resources for hospital stays.**
46. Which of the following is NOT one of the Core Elements of MTM?
- a. **MTM should be delivered face to face**
 - b. MTM benefits should include at least two CMR interventions per year
 - c. MTM should be proactive
 - d. MTM should be patient-centered
 - e. All of the above are Core Elements of MTM

47. During the Step-Wise approach to Comprehensive Medication Reviews, you should check each medication to see if it is Indicated, then Effective, then Safe, then check for Adherence issues?
- a. **True.**
 - b. False.
48. Which of the following is NOT one of the current eligibility requirements for MTM under Medicare part D?
- a. plans cannot require more than eight Part D drugs,
 - b. plans cannot require more than three chronic conditions
 - c. cost threshold lowered to \$3,000
 - d. **All of the Above**
 - e. None of the Above are current eligibility requirements
49. Which of the following is/are differences between products and services?
- a. Services are Intangible
 - b. Services are Inconsistent
 - c. Services are Indelible
 - d. **A&B**
 - e. A,B & C
50. All of the following are one of the types of Promotion mentioned in the lecture, EXCEPT:
- a. Public Speeches
 - b. Brochures
 - c. Bag Stuffers
 - d. A&C
 - e. **A, B & C are all types of Promotions that were mentioned**

***** THE END OF THE EXAM *****