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from The Center for Health Design

Sample Exam Questions

Practice questions to prepare for the EDAC examination.

1. A research team measured ambient noise levels in patient rooms. They also observed patient stress levels and the duration of visits by family and friends. The team found that high ambient noise was associated with high patient stress and short family visits. This is an example of which type of study?

   a. Correlational
   b. Retrospective
   c. Experimental
   d. Ethnographic

2. Historically, most health care organizations have thought of the physical building as a sunk cost. In evidence-based design, and as part of developing the business case, what is the physical building viewed as?

   a. A revenue center.
   b. A strategic investment.
   c. A capital expense.
   d. A healing environment.

3. In addition to research design, what factor **MOST** impacts the choice of data analysis tools?

   a. Research methodology.
   b. Amount of funds available.
   c. Preferences of the researcher.
   d. Ability to do a pilot study.

4. What is the **MOST** important activity that the project team does during the construction phase to prepare a project for post-occupancy research?

   a. Verify that the building and systems comply with the intent of the research plan, design strategies, and business case.
   b. Verify that the installation and implementation of systems were completed as specified by the manufacturer.
   c. Develop and use a commissioning plan to evaluate requirements in construction documents.
   d. Develop a training and operational plan for the staff about the new processes and equipment to support achieving the planned outcomes.

5. The hospital project manager is making recommendations for participants to join the interdisciplinary project team. There is disagreement about whether to include one or more vendors. What is the **MOST** appropriate recommendation?

   a. Do not include vendors because it is difficult for them to maintain objectivity in selection of appropriate products to meet project goals.
   b. Include vendors because they will offer substantial discounts on their products.
   c. Do not include vendors because they present their own research data and influence the selection of products.
   d. Include vendors because they provide insight and perspective regarding selection of appropriate products to meet project goals.

6. A project team is interested in reducing patient falls and increasing staff satisfaction in an existing inpatient unit. There are a variety of design changes that could be made to achieve these goals. These include the installation of a non-slip type of flooring, a decentralized nurse station layout, and handrails in the patient room. Given the limited budget, what should the project team do **FIRST** to determine where to invest its limited resources?

   a. Select the design feature that is most in line with the evidence-based design goals.
   b. Review data to determine the cost of patient falls and complete a business case.
   c. Conduct a critical review of the existing research for each option.
   d. Mock-up a patient room that includes the proposed design features.

7. There is an opportunity for transformational change during a new design and construction project. Who or what group is in the best position to drive the culture change necessary to establish the vision for the new facility?

   a. Physicians and nurses.
   b. Board of Directors.
   c. Chief Executive Officer.
   d. Chief Operating Officer.

8. During a key stakeholder meeting, an experienced nurse shared an article from a peer-reviewed journal that indicated that the efficiency of care provided by the nursing staff is influenced by the layout of patient rooms. The nurse argued that the bulk of their evidence-based design budget be spent on the layout of the patient rooms. What should the team do **FIRST**?

    a. Allocate the bulk of the budget to patient room redesign based on this evidence.
    b. Conduct an additional literature search to validate the research report's findings.
    c. Benchmark hospitals that have demonstrated an increase in staff efficiency based upon the layout of patient rooms.
    d. Complete a business case in order to determine the operational savings from this change in layout.

9. A researcher on the project team wants to make sure that a new observation tool they developed has a high degree of reliability. How should the researcher ensure the observation tool is reliable?

    a. Submit the tool to the Institutional Review Board (IRB).
    b. Test the tool in a variety of settings both within and outside the hospital.
    c. Ask a team of expert researchers to validate that the tool is measuring what it's supposed to measure.
    d. Have several researchers use the tool within a specified time frame and place, with the same subjects and see if similar results are achieved.

10. A project team wants to make sure that a patient satisfaction tool they developed has a high degree of external validity. What does external validity mean?

    a. The tool is transferable to a variety of healthcare settings.
    b. The tool generates results that are significant to $p < .05$.
    c. The tool measures what it is supposed to measure.
    d. The tool generalizes information to theoretical constructs.

11. What model addresses the integration of the physical environment, people, systems-design, operational planning, and design process and implementation in an evidence-based design process?

    a. Innovative Care.
    b. Environment of Care.
    c. Lean Healthcare.
    d. Patient-Centered Care.

12. An architectural firm is interested in conducting their own post-occupancy evaluation (POE) for a recently completed project. To increase the credibility of the findings, what should the firm do **FIRST**?

    a. Determine which hypothesis to measure.
    b. Conduct a pilot study to test the research tools.
    c. Ensure there is adequate time and funding.
    d. Hire a third-party researcher to avoid bias.

13. When designing a hospital using an evidence-based approach, it is **MOST** important to remember which of the following?

    a. To evaluate and collect baseline data.
    b. To include users in identifying design strategies.
    c. To consider the impact of confounding variables.
    d. To make the connection between design and outcomes.

14. What is the **PRIMARY** reason to review the budget and estimated return on investment during the design development phase?

    a. To validate alignment with the project's evidence-based design goals.
    b. To gather and review baseline financial data to inform post-occupancy evaluations.
    c. To determine the cost to conduct research after the project is completed.
    d. To identify first-time costs for new capital equipment.

15. When developing the preliminary research plan during conceptual design, what is the **PRIMARY** purpose for creating a hypothesis?

    a. To determine the appropriate research methodology.
    b. To identify the baseline data that needs to be collected.

c. To evaluate the outcomes for the various design options.
d. To establish a link between the design concept and intended results.

16. In the early phases of the project, when the scope of the project has been reviewed and the team is developing the estimated budget, what should be documented to justify evidence-based design features?

a. Strategic goals.
b. Research methodology.
c. Business case.
d. Master plan.

17. When applying an evidence-based design process, why **MUST** the economic and social factors included in the Environment of Care (EOC) model be considered when designing the physical environment?

a. They affect the development of the budget.
b. They exist concurrently and influence planning.
c. They influence the results of the research.
d. They define baseline performance metrics.

18. A project team wants to standardize their patient rooms. They hypothesize that the implementation of same-handed rooms will improve outcomes. When evaluating their results what would be the **BEST** data to review to demonstrate an improvement in clinical outcomes?

a. Length of stay reports.
b. Patient satisfaction surveys.
c. Medical error rates.
d. Healthcare-associated infection rates.

19. As soon as the project scope is defined, which of the following should kick-off the research process?

a. Identify research questions.
b. Conduct a literature review.
c. Document a hypothesis.
d. Establish performance metrics.

20. After reviewing reliable research studies indicating that soothing music can reduce the need for anesthesia during medical procedures, the team wants to incorporate this feature in their operating rooms. What baseline data is **MOST** important to gather during the design phase to be able to evaluate the success of this feature after occupancy?

a. Average length of the procedure.
b. Average number of procedures.
c. Average patient recovery time.
d. Average patient satisfaction scores.

21. A team of researchers collected data on patient and family stress, patient length of stay (LOS), and overall satisfaction to compare a unit with windows to a unit without windows. After collecting data they realized that staff changes had been implemented in the new unit. Which of the following should the team do before drawing conclusions?

a. Analyze the data for confounding variables.
b. Conduct focus groups with the new staff.
c. Conduct surveys with the existing staff.
d. Disregard the data and restart data collection.

22. What **MUST** the executive team of a community health center do to establish a project vision and goals and gain insight into how design strategies will work in a real-world setting?

a. Confirm the project scope with the board of directors.
b. Develop the project team structure and budget.
c. Select and engage members of an interdisciplinary project team.
d. Establish expectations for the project and team members.

23. As the project team begins to develop their design strategies for the emergency room, they want to locate the most relevant research. What is the **BEST** place for them to locate this information?

a. Trade journals
b. Indexing service
c. Websites
d. Databases

24. As the project team begins their work, they should establish guiding principles and design guidelines that will lead to the creation of design concepts. What is BEST source of information for the team to use when developing their guiding principles?

    a. Relevant literature.
    b. Experiential knowledge.
    c. Current healthcare regulations.
    d. Institute of Medicine (IOM) Report.

25. What is the **MOST** important reason to include expert experiential knowledge from an architectural consultant firm?

    a. They have access to a database of resources.
    b. They have access to a network of professionals.
    c. They provide experimental data on research studies.
    d. They bring project-based observations and insights.

26. When measuring or evaluating results, various methodologies can be used. Independently they may have limitations. Which of the following describes the use of multiple methods to strengthen the validity and reliability of the research project?

    a. Triangulation
    b. Correlation
    c. Qualitative research
    d. Applied research

27. After construction is completed, the research team is preparing to collect the post-occupancy data. What should the team do PRIOR to collecting the data?

    a. Create the research hypothesis.
    b. Validate the research tools.
    c. Define the performance metrics.
    d. Review the business case.

28. During design development, the project team finalized the proposed design features. Now the team is starting to create hypotheses for their research study. What **MUST** the team include in the hypotheses to properly evaluate their design features?

    a. Research design and methodology.
    b. Baseline data.
    c. Prediction of expected relationships.
    d. Primary focus of the research.

29. During the design process, personnel participated in a visioning session to identify perceived problems and to suggest improvements. Research followed to see if credible evidence could be found to support the suggested improvements. The findings were discussed with the staff. What was the **PRIMARY** reason for doing this?

    a. To discuss existing workflow.
    b. To meet union requirements.
    c. To encourage support and buy-in.
    d. To make an informed decision.

30. A large medical center developed a corporate strategy committed to safety and sustainability. One goal is to reduce patient falls and infections. The marketing department also wants to increase the medical center's market share. Prior to functional and space programming, what is the **FIRST** thing the team should do?

    a. Establish outcome measures.
    b. Evaluate population demographics.
    c. Ensure alignment of the project vision and goals.
    d. Conduct focus groups to determine needs.

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About EDAC
EDAC (Evidence-based Design Accreditation and Certification) is an educational program. The goal of the program is not to educate and test people on their knowledge of available evidence, rather to educate and test them on the process to identify research, hypothesize, implement, gather, evaluate, and report their results.

Mission and Vision
Our mission is to develop a community of certified industry individuals through education and assessment of an evidence-based design process. Our vision is a world where all healthcare environments are created using an evidence-based design process.

About the Exam
The EDAC examination consists of 110 multiple-choice questions (100 scored and 10 pretest). Pretest items are not scored and are included to gather statistics for their use on future examinations. Candidates will have 2 hours to complete the exam. Every question (or statement) on the exam should be read carefully to avoid selecting the wrong answer based on a misread question. The answer is the most appropriate choice of all the possible responses.

The examination covers five sections in the exam content outline: Evidence-Based Design for Healthcare; Research; Predesign; Design; Construction and Occupancy. Use the outline, found on the EDAC website, as a reference guide to study for the exam.

Types of Questions
Recall: Requires candidates to draw from memorized facts.

Application: Requires candidates to interpret, classify, translate, or recognize relationships. The correct answer varies with the situation.

Analysis: These questions contain information that requires synthesis, problem solving, and selection of the best response. The question has correct answers that vary with the situation and candidates must act on a problem they identify from provided clues.

EDAC is a program from The Center for Health Design, and the exam is administered by Castle Worldwide. For additional information, please visit the EDAC website:

healthdesign.org/edac

Answer Key

1. a	11. b	21. a
2. b	12. d	22. c
3. a	13. d	23. d
4. a	14. a	24. a
5. d	15. d	25. d
6. c	16. c	26. a
7. c	17. b	27. b
8. b	18. c	28. c
9. d	19. a	29. d
10. a	20. c	30. c