CANCER REGISTRY MANAGEMENT
PRINCIPLES & PRACTICES
for Hospitals and Central Registries

Third Edition

REVIEW GUIDE
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Planning and Design of Registries  
Carol Hahn Johnson, Section Editor

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study questions

1. Cancer in humans was first seen:
   a. in 1842 by an Italian physician.
   b. in 2500 B.C.
   c. around 460 to 370 B.C.
   d. in 1629 in England.

2. The word cancer was first used by:
   a. the Greek physician Hippocrates.
   b. ancient Egyptians.
   c. the Edwin Smith and George Ebers papyri.

3. The term surveillance as applied to public health means:
   a. monitoring death certificate cause of death information.
   b. monitoring of the occurrence of selected health conditions in the population.
   c. studying the cause of cancer.
   d. recording information on a disease.

4. The oldest example of a modern cancer registry is:
   a. Dr. Ernest Codman’s Registry of Bone Sarcoma.
   b. the Connecticut Tumor Registry.
   c. the Hamburg Cancer Registry in Germany.
   d. the SEER Program.
5. Which of the following are types of cancer registries?
   1. Population-based registries
   2. State cancer registries
   3. Specialty cancer registries
   4. Hospital-based cancer registries
   a. 1, 2, and 3
   b. 2, 3, and 4
   c. 1, 3, and 4
   d. All of the above

6. Every state in the US has a population-based state-wide central cancer registry.
   a. True
   b. False

7. Match the following types of cancer registry with the appropriate cancer data sources.
   A. Hospital-based cancer registry
   B. Population-based cancer registry
   C. Specialty cancer registry

   Sources:
   _____ Death certificate information from the vital statistics registration system
   _____ Patients diagnosed in Independent pathology laboratories
   _____ Active follow-up information on registered patients
   _____ Patients diagnosed and/or treated for cancer at a particular facility or facilities
   _____ Patients who voluntarily self-enroll
   _____ Only patients with certain familial cancers
   _____ Patients treated in independent cancer centers
   _____ Patients from private clinics and hospices
   _____ Only patients with a particular type of cancer
   _____ Patients enrolled by physicians

8. The National Program of Cancer Registries (NPCR) Cancer Surveillance System (CSS) was authorized by National Cancer Act in 1971.
   a. True
   b. False

9. The first code manual used in cancer registries was published by:
   a. CoC.
   b. SEER.
   c. ACS.
   d. NAACCR.
10. NAACCR’s primary role is to represent and serve as a forum for the organization, operation, quality control, and statistical reporting:
   a. for hospital-based cancer registries.
   b. for population-based cancer registries.
   c. for specialty cancer registries.
   d. None of the above.

11. The first national cancer registry program was established by:
   a. CoC.
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12. The *International Classification of Diseases for Oncology* is published by:
    ____________________________________.

13. The CTR®, Certified Tumor Registrar credential is awarded by:
   a. NAACCR.
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14. The cancer registry textbook titled *Cancer Registry Management: Principles & Practice* is published by:
   a. NAACCR.
   b. NCCCS.
   c. NCRA.
   d. CoC.

15. United States Cancer Statistics (USCS) contains data from:
   a. NCDB & NAACCR.
   b. NPCR & SEER.
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16. The *Self Instructional Manuals for Tumor Registrars* series is published by:
   a. NCRA.
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17. Match the following publications to the publishing organization:
   A. Cancer Facts and Figures
   B. Patient Care Evaluation Studies
   C. Cancer in North America
   D. Cancer in Five Continents
      _____ CoC
      _____ IACR
      _____ ACS
      _____ NAACCR

18. Accreditation for formal education programs that provide entry-level professional preparation with a major emphasis in Cancer Registry Management is offered by:
   a. NAACCR.
   b. CoC.
   c. SEER.
   d. NCRA.

19. One of the biggest challenges to cancer registrars will continue to be:
   a. finding a good job.
   b. keeping up with changes in data collection, coding, and reporting standards.
   c. getting the proper education for the job.
   d. All of the above

20. Match the following types of cancer registry with goals below:
   A. Hospital-based cancer registry
   B. Population-based cancer registry
   C. Specialty cancer registry
      _____ Advancing clinical, epidemiological, and health services research on cancer
      _____ Evaluating clinical care and hospital administration
      _____ Providing advocacy and educational opportunities to cancer patients
      _____ Exploration of trends in cancer care
      _____ Creation of regional and state benchmarks for hospitals
      _____ Gathering and disseminating epidemiologic data on a specific type of cancer
      _____ Determination of cancer patterns among various populations or sub-populations,
      _____ Monitoring cancer trends over time
      _____ Guiding planning and evaluation of cancer control efforts to help prioritize health resource allocations.
      _____ Improving patient care programs.
      _____ Research into the cause of cancer.
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   ______ B. Monitoring cancer trends over time
   ______ B. Guiding planning and evaluation of cancer control efforts to help prioritize health resource allocations.
   ______ A, B. Improving patient care programs.
   ______ B, C. Research into the cause of cancer.
1. The use of standard data item definitions facilitates:
   a. training procedures for coders.
   b. common editing procedures.
   c. comparability of data.
   d. all of the above.

2. Reliability refers to:
   a. how available the information is to the registrar.
   b. how consistently different people will code the same circumstances the same way.
   c. how quickly the information is coded after a treatment event takes place.
   d. all of the above.

3. In 2010, the way registries transmit dates was changed to improve:
   a. continuity of date information over time.
   b. intraoperability of date transmission.
   c. reliability of date information.
   d. all of the above.

4. When an old item is no longer relevant:
   a. one or more new response categories may be added to the older item.
   b. the old item may be dropped, and no longer coded.
   c. both a and b
5. New cancer registry data items may be added:
   a. as a result of medical advances.
   b. as a result of advances in computer communication technology.
   c. as a result of more widespread access to and use of registry data.
   d. all of the above

6. Registries should never create data items for their own use.
   a. True
   b. False

7. A good data item measures information that is usually available to abstractors.
   a. True
   b. False

8. If the occupation code sometimes represents the patient’s dominant lifetime occupation, sometimes the current occupation, and sometimes the most recent occupation, reliability can be improved by changing the codes applied.
   a. True
   b. False

9. New standard data items for cancer registries are implemented at the beginning of a diagnosis year.
   a. True
   b. False

10. NAACCR's initial Spanish/Hispanic identification item worked equally well in states with large Hispanic populations and those with small Hispanic populations.
    a. True
    b. False

11. NAACCR has no role in managing the generation of new registry data items.
    a. True
    b. False

12. Both real-time reporting and increased use of electronic medical records may affect standard cancer data sets in the future.
    a. True
    b. False
13. Select the term that matches the statements below.
   A. Data set
   B. Standard data item
   C. Data dictionary
   D. Interoperability

   _____ Data item whose codes, definitions, and coding instructions are shared among registry organizations
   _____ Consistency with which varied organizations and software systems handle the transmission of similar information
   _____ The collection of data items maintained by a registry
   _____ Provides coding instructions, code definitions, and the code options

14. Select the term that matches the statements below.
   A. Lead time error
   B. Administrative data items
   C. Relevance of a data item

   _____ Can be used to identify the coding scheme in use when a case was originally coded
   _____ Can change over time as medical knowledge changes
   _____ Can occur when medical technology advances and some cancers are diagnosed earlier in their progression than in the past
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   B. Can be used to identify the coding scheme in use when a case was originally coded
   C. Can change over time as medical knowledge changes
   A. Can occur when medical technology advances and some cancers are diagnosed earlier in their progression than in the past
study questions

1. How are accurate time frames determined for a specific process or task?
   a. Assessment of steps studies
   b. Asking previous employees
   c. Poll other cancer registries
   d. Time-motion studies
   e. b & c
   f. a & d
   g. None of the above

2. Which items affect staffing?
   a. The facility type
   b. Type and number of physician requests
   c. Number of meetings for which the registrar is a participant or staff
   d. Budget
   e. All of the above
   f. None of the above

3. Two key factors in determining staffing needs are facility and state requirements of the registry, and an assessment of realistic time frames to meet facility, state, and/or national standard-setters requirements.
   a. True
   b. False

4. Time-motion studies examine the time it takes to perform a job.
   a. True
   b. False
5. Step assessments evaluate each step required to perform the job.
   a. True
   b. False

6. A small facility can require more registry staff than a larger facility.
   a. True
   b. False

7. Which statement(s) regarding the advantages of having permanent cancer registry staff is (are) true?
   a. Permanent staff can work remotely.
   b. Traditionally, there are no housing costs.
   c. Staff knows the facility and the job expected of them.
   d. There is consistent staffing.
   e. All of the above
   f. None of the above

8. Which statement(s) regarding the advantages of outsourcing the cancer registry is (are) true?
   a. The number of staff can often be increased or decreased quickly.
   b. Short- or long-term commitments can be negotiated.
   c. On-site or remote staffing can be negotiated.
   d. Specific aspects/projects or the entire responsibility of the cancer registry can be negotiated.
   e. All of the above
   f. None of the above

9. How often should time-motion studies be performed?
   a. At predetermined intervals or when a new or change of responsibility occurs
   b. Several times a year when the assigned person gets around to it
   c. Once a year
   d. When an employee leaves

10. How many time-motion studies need to be done?
    a. Several
    b. One for each registry process or grouping of processes as determined by the cancer registry
    c. None as long as everyone knows their jobs
    d. None of the above

11. Step assessments are a necessary part of time-motion studies.
    a. True
    b. False
12. Registry staff can include:
   a. epidemiologists.
   b. CTRs.
   c. abstractors.
   d. follow-up clerks.
   e. statistical analysts.
   f. all of the above.
   g. none of the above.

13. Which option(s) is (are) an advantage of having remote staff?
   a. Less office space needed at the facility
   b. Connectivity can be an issue
   c. Flexible hours
   d. Remote staff can work from anywhere, which gives the registry a larger pool of staff to choose from
   e. a, b, & c
   f. a, c, & d
   g. All of the above
   h. None of the above

14. Why would a registry need someone on-site?
   a. To staff cancer conferences or committee meetings
   b. To process incoming mail
   c. To manage outside requests for follow-up
   d. To handle hard copy reports
   e. All of the above
   f. None of the above

15. For the majority of registries, it is better to hire an outsourcing company than to hire permanent staff.
   a. True
   b. False

16. Which statement(s) about the effect electronic medical records has on registry operations is (are) true?
   a. Allows for remote workers
   b. Allows for chart retrieval from computers
   c. Aggregates the patient information
   d. Provides information in real or near real time
   e. All of the above
   f. None of the above
17. Which sentence(s) is (are) true?
   a. Computer monitors should be placed with the top line at or below eye level.
   b. Monitors should be directly in front of or facing windows.
   c. Monitors should be placed more than two arm lengths away.
   d. All of the above
   e. None of the above

18. Taking microbreaks, stretching, or taking a walk is discouraged because it wastes time.
   a. True
   b. False

19. Most registry budgets are written annually without using information from the previous budget.
   a. True
   b. False

20. Which can be a cancer registry budget item(s)?
   a. Funds for supplies, including providing snacks or drinks at meetings
   b. Travel costs for meetings
   c. Cost of electricity, heat, housekeeping, and maintenance staff
   d. Salaries for registry staff
   e. All of the above
   f. None of the above

21. Which procedure(s) should be done to ensure that all costs have been included the budget?
   a. Keep records of invoices, costs
   b. Analyze information from previous budgets
   c. Check with other registrars
   d. Review information supported by NAACCR or NCRA
   e. All of the above
   f. None of the above

22. What is a nonrevenue-producing department?
   a. A department that depends on a sponsoring department and/or grants for support
   b. A department that charges patients for services
   c. A department that charges insurance for services
   d. A department that receives monies by charging for speakers
   e. All of the above
   f. None of the above
23. It is important to produce credible budgets.
   a. True
   b. False

24. Creating inflated budgets is good practice because it creates additional funding to be used as needed.
   a. True
   b. False

25. Where can one look to find current salary compensation?
   a. The Internet
   b. Human Resources
   c. Other registries
   d. Want ads
   e. All of the above
   f. None of the above

26. Why does a registry continually monitor registry work flow?
   a. To keep up with current requirements
   b. To keep appropriate staffing levels
   c. To keep staff honest
   d. a & b
   e. b & c
   f. All of the above
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   e. All of the above
   f. None of the above

3. Two key factors in determining staffing needs are facility and state requirements of the registry, and an assessment of realistic time frames to meet facility, state, and/or national standard-setters requirements.
   a. True
   b. False

4. Time-motion studies examine the time it takes to perform a job.
   a. True
   b. False

5. Step assessments evaluate each step required to perform the job.
   a. True
   b. False

6. A small facility can require more registry staff than a larger facility.
   a. True
   b. False
7. Which statement(s) regarding the advantages of having permanent cancer registry staff is (are) true?
   a. Permanent staff can work remotely.
   b. Traditionally, there are no housing costs.
   c. Staff knows the facility and the job expected of them.
   d. There is consistent staffing.
   e. All of the above
   f. None of the above

8. Which statement(s) regarding the advantages of outsourcing the cancer registry is (are) true?
   a. The number of staff can often be increased or decreased quickly.
   b. Short- or long-term commitments can be negotiated.
   c. On-site or remote staffing can be negotiated.
   d. Specific aspects/projects or the entire responsibility of the cancer registry can be negotiated.
   e. All of the above
   f. None of the above

9. How often should time-motion studies be performed?
   a. At predetermined intervals or when a new or change of responsibility occurs
   b. Several times a year when the assigned person gets around to it
   c. Once a year
   d. When an employee leaves

10. How many time-motion studies need to be done?
    a. Several
    b. One for each registry process or grouping of processes as determined by the cancer registry
    c. None as long as everyone knows their jobs
    d. None of the above

11. Step assessments are a necessary part of time-motion studies.
    a. True
    b. False

12. Registry staff can include:
    a. epidemiologists.
    b. CTRs.
    c. abstractors.
    d. follow-up clerks.
    e. statistical analysts.
    f. all of the above.
    g. none of the above.
13. Which option(s) is (are) an advantage of having remote staff?
   a. Less office space needed at the facility
   b. Connectivity can be an issue
   c. Flexible hours
   d. Remote staff can work from anywhere, which gives the registry a larger pool of staff to choose from
   e. a, b, & c
   f. a, c, & d
   g. All of the above
   h. None of the above

14. Why would a registry need someone on-site?
   a. To staff cancer conferences or committee meetings
   b. To process incoming mail
   c. To manage outside requests for follow-up
   d. To handle hard copy reports
   e. All of the above
   f. None of the above

15. For the majority of registries, it is better to hire an outsourcing company than to hire permanent staff.
   a. True
   b. False

16. Which statement(s) about the effect electronic medical records has on registry operations is (are) true?
   a. Allows for remote workers
   b. Allows for chart retrieval from computers
   c. Aggregates the patient information
   d. Provides information in real or near real time
   e. All of the above
   f. None of the above

17. Which sentence(s) is (are) true?
   a. Computer monitors should be placed with the top line at or below eye level.
   b. Monitors should be directly in front of or facing windows.
   c. Monitors should be placed more than two arm lengths away.
   d. All of the above
   e. None of the above

18. Taking microbreaks, stretching, or taking a walk is discouraged because it wastes time.
   a. True
   b. False
19. Most registry budgets are written annually without using information from the previous budget.
   a. True
   b. False

20. Which can be a cancer registry budget item(s)?
    a. Funds for supplies, including providing snacks or drinks at meetings
    b. Travel costs for meetings
    c. Cost of electricity, heat, housekeeping, and maintenance staff
    d. Salaries for registry staff
    e. All of the above
    f. None of the above

21. Which procedure(s) should be done to ensure that all costs have been included the budget?
    a. Keep records of invoices, costs
    b. Analyze information from previous budgets
    c. Check with other registrars
    d. Review information supported by NAACCR or NCRA
    e. All of the above
    f. None of the above

22. What is a nonrevenue-producing department?
    a. A department that depends on a sponsoring department and/or grants for support
    b. A department that charges patients for services
    c. A department that charges insurance for services
    d. A department that receives monies by charging for speakers
    e. All of the above
    f. None of the above

23. It is important to produce credible budgets.
    a. True
    b. False

24. Creating inflated budgets is good practice because it creates additional funding to be used as needed.
    a. True
    b. False
25. Where can one look to find current salary compensation?
   a. The Internet
   b. Human Resources
   c. Other registries
   d. Want ads
   e. All of the above
   f. None of the above

26. Why does a registry continually monitor registry work flow?
   a. To keep up with current requirements
   b. To keep appropriate staffing levels
   c. To keep staff honest
   d. a & b
   e. b & c
   f. All of the above
   g. None of the above
1. Law that covers wrongful acts that result in harm to another person, such as invasion of privacy, is called _______________ and can result in compensation to the injured party.

2. A patient’s right to personal privacy and confidential handling of medical records is covered under what important federal law concerned with health insurance portability?

3. Usually, federal law preempts state law, except where state law is:
   a. less strict than the federal law.
   b. more strict than the federal law.
   c. less effective than federal law.
   d. is less confusing than federal law.

4. A court order to provide certain documents, such as medical records, is called _______________.

5. Which of the following is NOT a federal administrative agency that may affect cancer registry operations?
   a. The Commission on Cancer
   b. The National Cancer Institute
   c. The Centers for Disease Control and Prevention
   d. Both b and c are not

6. Under what circumstances can confidential cancer registry data be made available?
   a. For marketing products to cancer patients.
   b. To help health care institutions recruit new patients.
   c. To provide follow up information to an approved facility.
   d. To aid insurance companies or employers trying to determine a patient’s medical status.
7. In addition to following federal and state legal requirements concerning patient confidentiality, the cancer registrar must also be aware of pertinent regulations formulated by their own institution.
   a. True
   b. False

8. Match the actions with the appropriate solutions.
   A. Keeping data secure
   B. Transmission of confidential data
   C. Appropriate release of data
   D. Computer failure
   _____ Automatic back up system
   _____ Data encryption
   _____ Passwords, audit control
   _____ Explicit administrative authorization

9. A serious breach of confidentiality can result in the cancer registrar being fired.
   a. True
   b. False

10. A serious breach of confidentiality can result in the facility being fined thousands of dollars.
    a. True
    b. False

11. It is appropriate to access the medical records of your sister if you are concerned about her cancer treatment.
    a. True
    b. False

12. Another area covered by HIPAA’s provisions includes the accuracy of record keeping.
    a. True
    b. False

13. Cancer registrars need to be concerned with confidentiality regarding:
    a. patient information.
    b. identity of health care professional.
    c. identification of institution.
    d. all of the above.
14. The enactment of the Benign Brain Tumor Cancer Registries Amendment Act is an example of why registrars need to be aware not only of pertinent new legislation but also of amendments to existing legislation.
   a. True
   b. False

15. The National Cancer Registrars Association adopted a *Professional Practice Code of Ethics* that outlines the principles of professional conduct and provides members of the Association with definitive and binding guidelines of conduct.
   a. True
   b. False

16. Use of the Certified Tumor Registrar (CTR) is reserved for those individuals who have awarded this credential.
   a. True
   b. False

17. It is unethical for the cancer registry professional to place this ahead of service.
   a. Personal interests
   b. Education
   c. Material gain
   d. Advancement

18. The most serious consequence of a finding of guilt of an ethics violation is revocation of the CTR credential.
   a. True
   b. False

19. Examples of possible duality of interest are: *(more than one answer may apply)*
   a. outside consultation services.
   b. holding of two separate certifications.
   c. committee appointments.
   d. business enterprises interests.

20. Any charges of unethical behavior or alleged violations are investigated by:
   a. NCRA staff.
   b. NCRA Ethics Committee.
   c. NCRA Council on Certification.
   d. NCRA Executive Board.
21. Guidelines addressed in the NCRA Professional Practice Code of Ethics are:
   a. submission of continuing education hours.
   b. cooperation with other professions and organizations.
   c. HIPPA Privacy Rule.
   d. civil versus criminal law.

22. Cancer registry professionals working from a remote or home office must follow the same confidentiality and privacy guidelines as when working in an employer’s office.
   a. True
   b. False

23. Placing material gain ahead of service is not unethical.
   a. True
   b. False

24. Honorable discharge of the Association’s responsibilities is one of the guidelines addressed in the NCRA Professional Practice Code of Ethics.
   a. True
   b. False

25. The cancer registry professional has no responsibility in providing training and clinical experience to students or other professionals.
   a. True
   b. False

26. Match the actions with the appropriate guidelines.
   A. Producing complete, accurate, and timely information
   B. Truthfully and accurately representing Credentials, education and experience
   C. Revocation of the CTR credential
   D. Providing lists of patients for marketing purposes
   _____ Professionalism
   _____ Discharge of entrusted professional duties and responsibilities
   _____ Confidentiality and privacy
   _____ Breach of ethical conduct sanction
1. Law that covers wrongful acts that result in harm to another person, such as invasion of privacy, is called a **tort** and can result in compensation to the injured party.

2. A patient’s right to personal privacy and confidential handling of medical records is covered under what important federal law concerned with health insurance portability? **HIPAA**

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   ___D__ Automatic back up system
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   ___ B Professionalism
   ___ A Discharge of entrusted professional duties and responsibilities
   ___ D Confidentiality and privacy
   ___ C Breach of ethical conduct sanction
For Questions 1 to 6, select the term that matches the statement.

A. degree  
B. competence  
C. changes  
D. continuing  
E. education  
F. individual  
G. organizational  

1. The commitment to professional development and growth is a/an __________________ commitment.

2. The cornerstone of the registrar’s professional development is __________________ education.

3. Professional refers to those with a professional _______________ or those with a high level of _______________ in a particular activity.

4. Individual employee professional development results in _______________ professional development.

5. Registrars are expected to understand and apply all data standard _______________.

6. The greater the responsibilities that are placed on the registrar, the greater the need for higher _______________.

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study questions
7. A complete listing of accredited college programs for registrars can be accessed at which of the following organization’s Web sites?
   a. AHIMA
   b. SEER
   c. CTR
   d. NCRA
   e. All of the above

8. An emphasis on cancer surveillance may include which of the following?
   a. Evaluation of efficacy of treatment
   b. Analyzing referral patterns
   c. Compliance with treatment guidelines
   d. a, b, and c
   e. b and c

9. Which of the following best completes this statement, “Education to prepare registrars for informatics will ______________”?  
   a. not be necessary
   b. be limited to software applications
   c. play a pivotal role
   d. none of the above
   e. a and b

10. Some barriers to establishing a mentoring relationship for the cancer registry professional include which of the following?
    a. Time constraints
    b. Requirement for formal procedures
    c. Specialization of the field
    d. a and c
    e. None of the above

11. Benefits of mentoring for employers include which of the following?
    a. Fewer errors
    b. Shorter learning curve
    c. Happier employees
    d. All of the above
    e. None of the above
12. Which of the following groups benefit from registrars working together and helping each other?
   a. Cancer surveillance community
   b. Researchers
   c. Cancer programs
   d. Cancer patients
   e. All of the above

13. Registrars should not seek which of the following through volunteerism?
   a. Financial or material gains
   b. Leadership experience
   c. Identification of new opportunities
   d. Acquisition of new skills

14. Future directions in cancer surveillance may require an advanced degree in addition to maintaining certification requirements.
   a. True
   b. False

15. Some of the characteristics of a professional include commitment to service, maintenance of competency level, and a code of ethics.
   a. True
   b. False

16. The mentoring relationship is not based on trust and accountability but on a formal relationship that follows the required processes.
   a. True
   b. False

17. The registrar’s professional development is limited to attendance at national and state association meetings.
   a. True
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For Questions 1 to 6, select the term that matches the statement.

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4. Individual employee professional development results in ______ G ________ professional development.

5. Registrars are expected to understand and apply all data standard ______ C ________.

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   b. False
1. Define the term *confidential health information* and provide examples of confidential health information that is processed by cancer registries.

2. Provide examples of inappropriate releases of cancer registry data.

3. Name current drivers and standards of privacy and security protection.

4. Describe differences between privacy and security. Provide examples.

5. What are considered to be physical safeguards, and how are they currently being or will be implemented within your registry organization?

6. Describe technical security mechanisms in place in your registry. After reading this chapter, what will you change?
1. Define the term *confidential health information* and provide examples of confidential health information that is processed by cancer registries.

Cancer registry personnel routinely collect, evaluate and interpret, and disclose patient identification information and detailed medical histories referred to as confidential health information. You may have named any of the following examples:

- Names
- Addresses
- Dates
- Telephone and fax numbers
- E-mail addresses
- ID numbers such as medical record numbers
- Health plan beneficiary information
- Account, certificate, license numbers
- Text fields

2. Provide examples of inappropriate releases of cancer registry data.

Provision of patient names, addresses, and other confidential health information to researchers, marketing companies, and other third parties without the written consent of the patient or IRB approval.

3. Name current drivers and standards of privacy and security protection.

You may have named any of the following:

- a. HIPAA
- b. Industry standards
- c. Duty of care
- d. Patient interests

4. Describe differences between privacy and security. Provide examples.

Privacy defines the permissible means of access, use, and disclosure of the applicable patient information, whereas security governs the operational and technical mechanisms necessary to protect this information. Actual events that demonstrate the relevance of privacy and security protections in health information management include:

- A hospital employee’s child copied patient contact information from hospital records and “jokingly” notified the patients that they were diagnosed with HIV.
- A county health board member, who was a banker, reviewed patient information under his control to determine which of his customers were diagnosed with cancer. He recalled their mortgages for immediate payment.
- A health information web site mistakenly posted the names, addresses, and telephone numbers of thousands of users who requested drug and alcohol addiction information.
• A pharmacy clerk’s son informed a prescription holder’s children that their father had AIDS.
• A hospitalized patient discovered that more than 200 hospital employees had accessed her health information.
• The purchaser of a used computer discovered that it contained detailed prescription and identification records kept by the pharmacy that previously owned the computer.
• An auction bidder attempted to purchase a health practice’s medical records for the purpose of, among other plans, selling the information back to the patients.

5. What are considered to be physical safeguards, and how are they currently being or will be implemented within your registry organization?

Physical safeguards are established to prevent unreasonable threats to an organization’s buildings, equipment, and media. They take into consideration physical threats, such as disaster, physical or electronic break-in, theft, and careless or intentional physical access to confidential information, and are intended to protect against both external and internal threats. Physical safeguards can include locks, physical barriers, monitoring, visitor control, as well as the control of media and equipment, for example, automatic log outs of software applications after idle period.

6. Describe technical security mechanisms in place in your registry. After reading this chapter, what will you change?

Answers will vary by registry.
study questions

1. What device protects a registry’s network from external intrusion?
   a. LAN
   b. Virtual Private Network
   c. Encryption application
   d. Firewall
   e. Server

2. What type of network allows registry staff in different cities to share computer resources?
   a. Local Area Network
   b. Web Enabled Network
   c. Wide Area Network
   d. Virtual Network Environment
   e. Internet Accessible Network

3. Why is it important for laptop computers to be configured with disk encryption?
   a. Because they are small and portable.
   b. They often contain confidential information.
   c. They may be easily lost or stolen.
   d. Because they are so similar to desktop computers.
   e. They are often targeted by unauthorized users.
4. Which of the following are open-source database applications? Select all that apply.
   a. Microsoft Access
   b. Microsoft SQL Server
   c. MySQL
   d. Oracle
   e. Postgres

5. What computer language is often used to create, update, and delete data from a database?
   a. C++
   b. SQL
   c. JDBC
   d. Java
   e. XML

6. Why is a relational database structure better for storing registry data than a NAACCR data exchange record?
   a. Registry data are logically grouped into records such as patient demographics and cases.
   b. The NAACCR record is designed for data exchange, not storage.
   c. Some NAACCR data exchange fields simply do not make sense to store in a registry database.
   d. The NAACCR data exchange record can accommodate only a fixed number of therapy records.
   e. All of the above

7. What are the major functions of central registry software systems?

8. What software function(s) are unique to hospital registries? Select all that apply.
   a. Data linkage with Social Security Administration files
   b. Conducting active patient follow-up
   c. Generating data for clinicians
   d. Submitting data to the American College of Surgeons’ National Cancer Database
   e. Submitting data to the Centers for Disease Control and Prevention

9. Why should central registries be concerned with registry data management systems used by their reporting hospitals?
   a. The majority of central registry data is first collected by the hospital data management system.
   b. Edit checks and coding rules may or may not be consistently implemented by hospital registry vendors.
   c. It may be important when coordinating transitions to new coding standards.
   d. All of the above
   e. None of the above
10. Name at least three important types of software applications important to registry operations.

11. Why should a probabilistic record linkage application be used to link records in a central registry?
   a. It makes it feasible and efficient to link data sets in a statistically justifiable manner.
   b. It increases the probability that two records can be matched.
   c. It allows weighted match probabilities to be ignored.
   d. It is faster than comparing two spreadsheets.
   e. It reduces the rate of typographical errors often found in registry data.

12. What are two advantages of increasing interoperability of registry data?
   a. It reduces the need for federal funding of central registries.
   b. It protects registry data from unauthorized use.
   c. It enhances the central registry’s ability to automatically incorporate data from other sources.
   d. It ensures researchers learn complex registry data coding standards.
   e. It makes it easier for researchers and others to utilize registry data.

13. Can two different data standards be syntactically interoperable but not semantically interoperable?
   a. Yes.
   b. No.
   c. It depends.

14. What is most important to achieving interoperability with other data systems?
   a. Supporting patents on registry data standards
   b. Publishing registry data standards on the Web
   c. Entering registry data elements into the caDSR
   d. Supporting and adopting widely used data standards
   e. Being able to quickly develop custom interfaces

15. What does HL7 stand for and what is it?
   a. Hell, Level Seven is where registrars are tortured in Dante’s Inferno.
   b. Hi Low Seven is a soft drink popular in the registry community.
   c. Hepatic Liver Seven is an advanced stage of liver cancer.
   d. Health Level Seven is a widely used data exchange standard in the healthcare industry.
   e. Help Language Seven is the seventh edition of a popular scripting language for help systems.

16. What are the three key roles for cancer registry technical staff?
17. How much of IT staff time should be devoted to the registry?
   a. 50%
   b. 75%
   c. 100%
   d. Doesn’t really matter
   e. Whatever the IT department thinks

18. What is an essential element of proper disaster recovery planning?
   a. Housing registry offices and computers in locations above the flood stage
   b. Providing a reliable backup and recovery system
   c. Installing an Uninterruptible Power Supply
   d. Equipping all technical staff with beepers
   e. Configuring computer servers with fail-safe and redundant components

19. When can confidential patient data be transmitted over the Web or Internet? Select all that apply.
   a. When using encrypted Web connections
   b. Only when the recipient is expecting the data and can quickly retrieve it from e-mail
   c. By attaching data to e-mail in an encrypted file
   d. When data are contained on a CD mailed using nondescript packaging
   e. When data are encrypted on physical media

20. How often should a registry plan to replace desktop computers?
   a. Every year
   b. Every 2 years
   c. Every 3 to 5 years
   d. Every 6 to 10 years
   e. Only when the IT department is willing to do it

21. What changes will technologic advances likely bring to cancer registries? Select all that apply.
   a. Registry data will be available closer to real time.
   b. Interoperability will no longer be necessary.
   c. The registry data set will become more simplified.
   d. Cancer registration will become completely automated, eliminating the need for cancer registrars.
   e. Registry data will become even more clinically relevant and important.
1. What device protects a registry’s network from external intrusion?
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   d. **Firewall**
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   a. Because they are small and portable.
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   d. Because they are so similar to desktop computers.
   e. They are often targeted by unauthorized users.

4. Which of the following are open-source database applications? Select all that apply.
   a. Microsoft Access
   b. Microsoft SQL Server
   c. MySQL
   d. Oracle
   e. **Postgres**

5. What computer language is often used to create, update, and delete data from a database?
   a. C++
   b. **SQL**
   c. JDBC
   d. Java
   e. XML
6. Why is a relational database structure better for storing registry data than a NAACCR data exchange record?
   a. Registry data are logically grouped into records such as patient demographics and cases.
   b. The NAACCR record is designed for data exchange, not storage.
   c. Some NAACCR data exchange fields simply do not make sense to store in a registry database.
   d. The NAACCR data exchange record can accommodate only a fixed number of therapy records.
   e. All of the above

7. What are the major functions of central registry software systems?
   You may have named any of the following:
   a. Data entry and import
   b. Record consolidation
   c. Record linkage
   d. Supporting quality assurance operations
   e. Reporting and analysis
   f. Data exchange and export
   g. Provide access security
   h. Task and record management

8. What software function(s) are unique to hospital registries? Select all that apply.
   a. Data linkage with Social Security Administration files
   b. Conducting active patient follow-up
   c. Generating data for clinicians
   d. Submitting data to the American College of Surgeons’ National Cancer Database
   e. Submitting data to the Centers for Disease Control and Prevention

9. Why should central registries be concerned with registry data management systems used by their reporting hospitals?
   a. The majority of central registry data is first collected by the hospital data management system.
   b. Edit checks and coding rules may or may not be consistently implemented by hospital registry vendors.
   c. It may be important when coordinating transitions to new coding standards.
   d. All of the above
   e. None of the above
10. Name at least three important types of software applications important to registry operations.
   You may have named any of the following:
   a. Record linkage
   b. Statistical analysis
   c. Geospatial analysis
   d. Edit checking
   e. Electronic pathology transmissions
   f. Collaborative Stage Data Collection System

11. Why should a probabilistic record linkage application be used to link records in a central registry?
   a. It makes it feasible and efficient to link data sets in a statistically justifiable manner.
   b. It increases the probability that two records can be matched.
   c. It allows weighted match probabilities to be ignored.
   d. It is faster than comparing two spreadsheets.
   e. It reduces the rate of typographical errors often found in registry data.

12. What are two advantages of increasing interoperability of registry data?
   a. It reduces the need for federal funding of central registries.
   b. It protects registry data from unauthorized use.
   c. It enhances the central registry’s ability to automatically incorporate data from other sources.
   d. It ensures researchers learn complex registry data coding standards.
   e. It makes it easier for researchers and others to utilize registry data.

13. Can two different data standards be syntactically interoperable but not semantically interoperable?
   a. Yes.
   b. No.
   c. It depends.

14. What is most important to achieving interoperability with other data systems?
   a. Supporting patents on registry data standards
   b. Publishing registry data standards on the Web
   c. Entering registry data elements into the caDSR
   d. Supporting and adopting widely used data standards
   e. Being able to quickly develop custom interfaces
15. What does HL7 stand for and what is it?
   a. Hell, Level Seven is where registrars are tortured in Dante’s Inferno.
   b. Hi Low Seven is a soft drink popular in the registry community.
   c. Hepatic Liver Seven is an advanced stage of liver cancer.
   d. Health Level Seven is a widely used data exchange standard in the healthcare industry.
   e. Help Language Seven is the seventh edition of a popular scripting language for help systems.

16. What are the three key roles for cancer registry technical staff?
   a. Software development
   b. Systems administration
   c. Registry operations technical support

17. How much of IT staff time should be devoted to the registry?
   a. 50%
   b. 75%
   c. 100%
   d. Doesn’t really matter
   e. Whatever the IT department thinks

18. What is an essential element of proper disaster recovery planning?
   a. Housing registry offices and computers in locations above the flood stage
   b. Providing a reliable backup and recovery system
   c. Installing an Uninterruptible Power Supply
   d. Equipping all technical staff with beepers
   e. Configuring computer servers with fail-safe and redundant components

19. When can confidential patient data be transmitted over the Web or Internet? Select all that apply.
   a. When using encrypted Web connections
   b. Only when the recipient is expecting the data and can quickly retrieve it from e-mail
   c. By attaching data to e-mail in an encrypted file
   d. When data are contained on a CD mailed using nondescript packaging
   e. When data are encrypted on physical media

20. How often should a registry plan to replace desktop computers?
   a. Every year
   b. Every 2 years
   c. Every 3 to 5 years
   d. Every 6 to 10 years
   e. Only when the IT department is willing to do it
21. What changes will technologic advances likely bring to cancer registries? Select all that apply.

a. Registry data will be available closer to real time.

b. Interoperability will no longer be necessary.

c. The registry data set will become more simplified.

d. Cancer registration will become completely automated, eliminating the need for cancer registrars.

e. Registry data will become even more clinically relevant and important.
study questions

1. What was the main reason data edits were developed?

2. When were the first coding rules and guidelines established?

3. What group has members from all standard-setting organizations and whose goal is data standardization?

4. Name the two organizations responsible for the development of Edits software?

5. What were the two reasons given for the development of Edits software?

6. When were the first standard Edits made available?
   a. 1985  
   b. 1987  
   c. 1996

7. Major changes to registry data changes by standard setters are instituted every _____ year(s).
   a. 2  
   b. 3  
   c. single

8. Name three challenges to standardizing data edits.

9. Why are standard data edits created?
10. What is the “why, when, where and how” of edits?
   Why:
   When:
   Where:
   How:

11. Name the three edit components.

12. A metafile is:
   a. a big file.
   b. a set of instructions.
   c. a container.

13. What does the metafile contain?

14. Name the five key components of a metafile.

15. What is the purpose of an Edit Set?

16. Edits contain the ________________ to edit each field.

17. Name the three types of edits.

18. Finish this sentence: Edits are the ________________-______________-______________.

19. Which one of the following is the most important to consider when trying to resolve an edit using the Edit Report?
   a. The Edit Number
   b. The Edit Name
   c. The Error Message

20. Why might the error summary on the edit report be important to the cancer registry manager?

21. What is the name of the Edits feature that allows a user to note that the data are unusual, but correct?

22. List five suggestions for help with Edits.
1. What was the main reason data edits were developed?
   - Standardization of data collection

2. When were the first coding rules and guidelines established?
   - 1950s

3. What group has members from all standard-setting organizations and whose goal is data standardization?
   - Uniform Data Standards Committee (UDSC) of the American Association of Central Cancer Registries (AACCR)

4. Name the two organizations responsible for the development of Edits software?
   a. The Centers for Disease Control and Prevention (CDC)
   b. The National Program of Cancer Registries (NPCR)

5. What were the two reasons given for the development of Edits software?
   a. To improve the quality of data
   b. To standardize the way data items are checked for validity

6. When were the first standard Edits made available?
   a. 1985
   b. 1987
   c. 1996

7. Major changes to registry data changes by standard setters are instituted every ______ year(s).
   a. 2
   b. 3
   c. single

8. Name three challenges to standardizing data edits.
   a. Differing computer language in registry systems
   b. Standard specifications may be programmed differently
   c. Incomplete editing of data during data entry

9. Why are standard data edits created?
   - To test data against coding rules
10. What is the “why, when, where and how” of edits?
   Why: to identify incorrect data
   When: state or SEER submissions, NCDB Call for Data (Hospital Registries), NAACCR or NPCR Call for Data (Central Registries)
   Where: hospital or Central Registry
   How: Flag blank fields
      Indicate single-field edit errors
      Specify disagreement between multiple data fields
      Indicate potential errors that require manual review

11. Name the three edit components.
   a. Metafile
   b. Edit Set
   c. Individual Edits

12. A metafile is:
   a. a big file.
   b. a set of instructions.
   c. a container.

13. What does the metafile contain?
   Everything necessary to edit the data, except the data

14. Name the five key components of a metafile.
   a. Data Dictionary
   b. Record Layouts
   c. Edit Sets
   d. Standard Setting Agencies
   e. User Lookup Tables

15. What is the purpose of an Edit Set?
   To group individual edits

16. Edits contain the logic to edit each field.
17. Name the three types of edits.
   a. Single-Field Edits
   b. Inter-field Edits
   c. Inter-record Edits

18. Finish this sentence: Edits are the quality-control gatekeepers.

19. Which one of the following is the most important to consider when trying to resolve an edit using the Edit Report?
   a. The Edit Number
   b. The Edit Name
   c. The Error Message

20. Why might the error summary on the edit report be important to the cancer registry manager?
    Frequently encountered errors may mean that staff education is needed.

21. What is the name of the Edits feature that allows a user to note that the data are unusual, but correct?
    Edit Over-ride

22. List five suggestions for help with Edits.
    a. Learn as much as possible about GenEDITS and Metafiles.
    b. Look up the definitions of the fields in question.
    c. Check for common errors in the registry and provide education for staff.
    d. Find a mentor, someone with lots of experience.
    e. Call the state or central registry for edit assistance.
study questions

1. The vision of a computerized, or electronic medical record, began in 2004.
   a. True
   b. False

2. The abbreviations ONCHIT and ONC refer to __________________________ and __________________________, respectively.

3. During the George W. Bush administration (2001–2009), attention was paid to, and support was given, to the emerging EHR environment.
   a. True
   b. False

4. Progress toward the EHR evolution has included significant effort by both government and non-government entities.
   a. True
   b. False

5. With the advent of the EHR, privacy and security will become less important because computerization protects against misuse of data.
   a. True
   b. False

6. During the Obama administration, attention was paid to, and support was given, to the emerging EHR environment.
   a. True
   b. False
7. Fortunately, the CTR will not have to be concerned with the EHR environment.
   a. True
   b. False

8. An automated and algorithmic software certification process is not needed for the evolving EHR environment.
   a. True
   b. False

9. As long as each state has interoperable health data standards, national standards will not be necessary.
   a. True
   b. False

10. Few organizations have been concerned with EHR.
    a. True
    b. False

11. What does the terminology “meaningful use” have to do with the EHR environment?

12. What does PHR stand for?

13. Match the following acronyms to their definitions below:
    A. RHIO
    B. HIE
    C. HL7
    D. ANSI
    E. LOINC
    F. CPRI

    _____ Founded in 1918 as a nonprofit, voluntary collaboration for standardization activities
    _____ Computer-Based Patient Record Institute
    _____ The gathering of healthcare information electronically across organizations within a region or community
    _____ Terminology database facilitates the exchange of clinical results, such as blood hemoglobin, serum potassium, or vital signs, for clinical care, outcomes management, and research
    _____ Produce standards/protocol for transmission of clinical and administrative data
    _____ Healthcare stakeholders within a defined geographic area that govern a health information exchange according to nationally recognized standards
   a. True
   b. False

15. Online abstracting from the EMR has proved so simple, that the role of the abstractor may be eliminated.
   a. True
   b. False

16. Use of the EMR cannot be expected to influence follow-up.
   a. True
   b. False

17. Changing medical records systems will markedly influence the future role of the cancer register, including abstracting.
   a. True
   b. False

18. Synoptic pathology reporting may help facilitate online abstracting.
   a. True
   b. False

19. Check those statements that are relevant and correct.
   a. ______ Cling to the traditional processes that registrars have used to minimize EHR.
   b. ______ Use the computer to eliminate the importance of security and privacy.
   c. ______ Simplify work processes by avoiding change.
   d. ______ Remain aloof from the EMR process in your hospital.
   e. ______ If each software vendor will use unique and proprietary codes to protect their data from others, this will enhance NHIN prospects.
   f. ______ Spirited resistance to annual changes to staging, abstracting, and data sets will set a useful lesson to standard-setting organizations that enough is enough.
   g. ______ None of these is relevant and correct.

20. The potential cost savings predicted for the EHR environment are estimated to reduce budgets approximately 50% in the first year.
   a. True
   b. False

21. In the future, the cancer registrar will not need computer skills because the bulk of such effort will have been transferred to IT.
   a. True
   b. False
1. The vision of a computerized, or electronic medical record, began in 2004.
   a. True
   b. False

2. The abbreviations ONCHIT and ONC refer to Office of the National Coordinator for Health Information and Office of National Coordinator, respectively.

3. During the George W. Bush administration (2001–2009), attention was paid to, and support was given, to the emerging EHR environment.
   a. True
   b. False

4. Progress toward the EHR evolution has included significant effort by both government and nongovernment entities.
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5. With the advent of the EHR, privacy and security will become less important because computerization protects against misuse of data.
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   a. True
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8. An automated and algorithmic software certification process is not needed for the evolving EHR environment.
   a. True
   b. False
9. As long as each state has interoperable health data standards, national standards will not be necessary.
   a. True
   b. False

10. Few organizations have been concerned with EHR.
    a. True
    b. False

11. What does the terminology “meaningful use” have to do with the EHR environment?
    A specific EHR must have “meaningful use” features and benefits to qualify for certain government funding.

12. What does PHR stand for?
    Personal Health Record

13. Match the following acronyms to their definitions below:
    A. RHIO
    B. HIE
    C. HL7
    D. ANSI
    E. LOINC
    F. CPRI

    D. Founded in 1918 as a nonprofit, voluntary collaboration for standardization activities
    F. Computer-Based Patient Record Institute
    B. The gathering of healthcare information electronically across organizations within a region or community
    E. Terminology database facilitates the exchange of clinical results, such as blood hemoglobin, serum potassium, or vital signs, for clinical care, outcomes management, and research
    C. Produce standards/protocol for transmission of clinical and administrative data
    A. Healthcare stakeholders within a defined geographic area that govern a health information exchange according to nationally recognized standards

    a. True
    b. False
15. Online abstracting from the EMR has proved so simple, that the role of the abstractor may be eliminated.
   a. True
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16. Use of the EMR cannot be expected to influence follow-up.
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17. Changing medical records systems will markedly influence the future role of the cancer register, including abstracting.
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18. Synoptic pathology reporting may help facilitate online abstracting.
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19. Check those statements that are relevant and correct.
   a. _____ Cling to the traditional processes that registrars have used to minimize EHR.
   b. _____ Use the computer to eliminate the importance of security and privacy.
   c. _____ Simplify work processes by avoiding change.
   d. _____ Remain aloof from the EMR process in your hospital.
   e. _____ If each software vendor will use unique and proprietary codes to protect their data from others, this will enhance NHIN prospects.
   f. _____ Spirited resistance to annual changes to staging, abstracting, and data sets will set a useful lesson to standard-setting organizations that enough is enough.
   g. _____ None of these is relevant and correct.

20. The potential of cost savings predicted for the EHR environment are estimated to reduce budgets approximately 50% in the first year.
   a. True
   b. False

21. In the future, the cancer registrar will not need computer skills because the bulk of such effort will have been transferred to IT.
   a. True
   b. False
1. Name three current technologies that have evolved to create dynamic websites?

2. Which file format is recommended to publish documents to the Web because it is widely used by standard-setting organizations and has a free reader?
   a. Word (.doc)
   b. Excel (.xls)
   c. Acrobat (.pdf)
   d. PowerPoint (.ppt)

3. Which is an example of a domain name?
   a. .com
   b. www.ncra-usa.org
   c. ncra-usa.org
   d. www

4. HTTP stands for HyperText Transfer Protocol.
   a. True
   b. False

5. Web address is a synonym of URL (Uniform Resource Locator).
   a. True
   b. False
6. A file can be attached to an e-mail by both dragging and dropping the attachment on the e-mail, and by clicking the paperclip icon in the e-mail toolbar and browsing for the file.
   a. True
   b. False

7. A file can be attached to an e-mail by both dragging and dropping the attachment on the e-mail, and by clicking the paperclip icon in the e-mail toolbar and browsing for the file.
   a. True
   b. False

8. Pure HTML code is dynamic, not static.
   a. True
   b. False

9. Google Apps software has to be installed to the desktop.
   a. True
   b. False

10. What would be the major concern of your IT/IS staff about storing data in the cloud?
    a. High cost
    b. Too labor intensive
    c. Data security
    d. Network downtime

11. Scavenger hunt: search on the Internet and discover three facts about multiple myeloma that you did not know before. What are the latest treatments in clinical trials? What is new with CSV2 coding?

12. Which of the following is true about virtual servers?
    a. Several may exist on the same server hardware.
    b. They may be easily scaled depending on the applications requirements.
    c. Amazon Web Services is a major provider of virtual servers.
    d. All of the above.

13. Browse the American Cancer Society Web site and find Cancer Facts and Figures for 2009. Determine which is the only leading cancer site group ranked the same for both new cancer cases and deaths for both men and women based on 2009 estimates.

14. Google Chrome is:
    a. an operating system (OS).
    b. a Web browser.
    c. an operating system (OS) and a Web browser.
15. Both text and images can be hyperlinks in Web pages.
   a. True
   b. False

16. When a file is “checked out” from SharePoint:
   a. only members of the site can edit it and check the file back in.
   b. any Internet user who knows the location of the file can download the file.
   c. only the user who checked out the file can edit the file before checking it back in.
   d. the file is locked and nobody can edit it.

17. A Web URL is entered into the _________________ of the Web browser.

18. _________________ is an example of a Web 2.0 site.
1. Name three current technologies that have evolved to create dynamic websites?
   PHP, CSS, and Javascript

2. Which file format is recommended to publish documents to the Web because it is widely
   used by standard-setting organizations and has a free reader?
   a. Word (.doc)
   b. Excel (.xls)
   c. Acrobat (.pdf)
   d. PowerPoint (.ppt)

3. Which is an example of a domain name?
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   b. www.ncra-usa.org
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   the e-mail, and by clicking the paperclip icon in the e-mail toolbar and browsing for the
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10. What would be the major concern of your IT/IS staff about storing data in the cloud?
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    b. Too labor intensive
    c. Data security
    d. Network downtime

11. Scavenger hunt: search on the Internet and discover three facts about multiple myeloma that you did not know before. What are the latest treatments in clinical trials? What is new with CSV2 coding?
    You may have named any of the following:
    a. Multiple myeloma is a cancer of plasma cells.
    b. Patients with multiple myeloma have impaired immune function.
    c. Men are more likely than women to be diagnosed with the disease.
    d. Fatigue in multiple myeloma patients is caused by a decrease in the quantity of red blood cells.

12. Which of the following is true about virtual servers?
    a. Several may exist on the same server hardware.
    b. They may be easily scaled depending on the applications requirements.
    c. Amazon Web Services is a major provider of virtual servers.
    d. All of the above.

13. Browse the American Cancer Society Web site and find Cancer Facts and Figures for 2009. Determine which is the only leading cancer site group ranked the same for both new cancer cases and deaths for both men and women based on 2009 estimates.
    Colorectal cancer is ranked #3 for both men and women and for both new cases and deaths.

14. Google Chrome is:
    a. an operating system (OS).
    b. a Web browser.
    c. an operating system (OS) and a Web browser.

15. Both text and images can be hyperlinks in Web pages.
    a. True
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16. When a file is “checked out” from SharePoint:
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   d. the file is locked and nobody can edit it.

17. A Web URL is entered into the Address bar of the Web browser.

18. ________________ is an example of a Web 2.0 site.

You may have named any of the following:
   a. Facebook.com
   b. Wikipedia.com
   c. Linkedin.com
   d. Myspace.com
   e. Youtube.com
1. “Residency at diagnosis” refers to the usual residence of the patient at the time of diagnosis of a reportable cancer. Which entity provides the rules and guidelines used by central registries to determine residency at diagnosis?
   a. U.S. Federal Bureau of Investigation
   b. U.S. Social Security Administration
   c. U.S. Postal Service
   d. U.S. Census Bureau

2. Currently in the United States, which governing agencies set reporting standards for hospital and population-based registries?
   a. American College of Surgeons (ACoS) Commission on Cancer (CoC)
   b. National Program of Cancer Registrars (NPCR)
   c. Surveillance, Epidemiology, and End Results (SEER)
   d. All of the above

3. Approximately what percentage of cancer cases is histologically confirmed?
   a. 50
   b. 80
   c. 95
   d. 100

4. Which data format(s) are recommended by NAACCR to laboratories for reporting pathology report text information electronically to central registries?
   a. HL7
   b. Pipe-delimited
   c. Both a and b
   d. Neither a nor b
5. Updates to the ICD-9-CM codes are effective annually in which month?
   a. January
   b. April
   c. October
   d. December

6. ___________ refers to the effective date on or after which all reportable cases should be registered in a registry database.

7. A ___________ is a listing of patients seen in a hospital, both inpatient and outpatient, with ICD-9-CM diagnosis codes.

8. A case is included on a ___________ during the casefinding process until the appropriate hospital or physician officially reports the case.

9. ___________ is a systematic method of identifying all potentially eligible cases that are to be included in the registry database.

10. ___________ is the process of identifying cases quickly for epidemiologic protocols.

11. A reportable list is usually developed by the central registry, is composed of all the reportable case types collected by a cancer registry, and clarifies the types of diagnoses that are not reportable.
   a. True
   b. False

12. Only hospital-based cancer registries are allowed to collect and report “reportable-by-agreement” cases. Population-based registries, including the state central cancer registries, are forbidden to report these cases by federal law.
   a. True
   b. False

13. A hospital with an ACoS-approved cancer program is not required to maintain a cancer registry.
   a. True
   b. False

14. It is common for a cancer registry to receive multiple types of casefinding source documents that belong to the same patient, even if those source documents have the same admission (or source) date.
   a. True
   b. False
15. Hospital-based cancer registries obtain death certificates from vital statistics government agencies in search for potentially missed cases.
   a. True
   b. False

16. The disease index is the primary casefinding source used by central registries to identify incident cases.
   a. True
   b. False

17. Pathology reports can be used to identify potentially reportable cases for both hospital and nonhospital facilities.
   a. True
   b. False

18. A disease index is an example of a codified source document, whereas a pathology report is an example of a full-text casefinding source document.
   a. True
   b. False

19. Hospitals are responsible to identify the list of ICD-9-CM codes that are mandatory to include on the disease index file to meet state reporting requirements.
   a. True
   b. False

20. Monitoring the volume of casefinding sources by facility by year is sufficient for ensuring complete reporting of casefinding source records.
   a. True
   b. False
1. “Residency at diagnosis” refers to the usual residence of the patient at the time of diagnosis of a reportable cancer. Which entity provides the rules and guidelines used by central registries to determine residency at diagnosis?
   a. U.S. Federal Bureau of Investigation
   b. U.S. Social Security Administration
   c. U.S. Postal Service
   d. U.S. Census Bureau

2. Currently in the United States, which governing agencies set reporting standards for hospital and population-based registries?
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   d. Neither a nor b

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   a. January
   b. April
   c. October
   d. December

6. Reference date refers to the effective date on or after which all reportable cases should be registered in a registry database.

7. A disease index is a listing of patients seen in a hospital, both inpatient and outpatient, with ICD-9-CM diagnosis codes.
8. A case is included on a suspense list during the casefinding process until the appropriate hospital or physician officially reports the case.

9. Casefinding is a systematic method of identifying all potentially eligible cases that are to be included in the registry database.

10. Rapid case ascertainment is the process of identifying cases quickly for epidemiologic protocols.

11. A reportable list is usually developed by the central registry, is composed of all the reportable case types collected by a cancer registry, and clarifies the types of diagnoses that are not reportable.
   a. True
   b. False

12. Only hospital-based cancer registries are allowed to collect and report “reportable-by-agreement” cases. Population-based registries, including the state central cancer registries, are forbidden to report these cases by federal law.
   a. True
   b. False

   All kinds of registries are allowed to collect “reportable-by-agreement” cases. There is no law or regulation that forbids the reporting of those cases to population-based registries.

13. A hospital with an ACoS-approved cancer program is not required to maintain a cancer registry.
   a. True
   b. False

   A cancer registry is mandatory for an ACoS-approved cancer program.

14. It is common for a cancer registry to receive multiple types of casefinding source documents that belong to the same patient, even if those source documents have the same admission (or source) date.
   a. True
   b. False

15. Hospital-based cancer registries obtain death certificates from vital statistics government agencies in search for potentially missed cases.
   a. True
   b. False

   Death clearance is performed only by central cancer registries.
16. The disease index is the primary casefinding source used by central registries to identify incident cases.
   a. True
   b. False

   Pathology reports are considered the primary casefinding source because 95% of all reportable cases are histologically confirmed. The disease index is used as a cross-check on the completeness of reporting of pathology cases at hospitals, as well as an effective method to identify clinically diagnosed cases.

17. Pathology reports can be used to identify potentially reportable cases for both hospital and nonhospital facilities.
   a. True
   b. False

18. A disease index is an example of a codified source document, whereas a pathology report is an example of a full-text casefinding source document.
   a. True
   b. False

19. Hospitals are responsible to identify the list of ICD-9-CM codes that are mandatory to include on the disease index file to meet state reporting requirements.
   a. True
   b. False

   Central registries are responsible for providing to hospitals a list of the mandatory and optional ICD-9-CM codes that should be included for casefinding purposes per the reporting rules of the state or region.

20. Monitoring the volume of casefinding sources by facility by year is sufficient for ensuring complete reporting of casefinding source records.
   a. True
   b. False

   In addition to monitoring volumes by facility by year, a report for monitoring the volume of disease index records at the disease code level ensures that health care facilities are identifying patient records using the appropriate ICD-9 codes specified by the central registry.
1. What are the six common sections of a cancer registry abstract?

2. The cancer registry abstract incorporates only the information that is available in the medical record.
   a. True
   b. False

3. Number the abstracting activities listed below in the order in which they are performed.
   _____ Prepare the abstract.
   _____ Disseminate data for reports and studies.
   _____ Determine whether the case is a new or separate primary.
   _____ Conduct quality control on the data.
   _____ Gather source documents.
   _____ Identify potentially reportable cases.

4. The cancer data collection manual required to be used by the American College of Surgeons Commission on Cancer is the _____________________.

5. The goals for abstracting are to have ____________, ____________, and ____________ cancer data.

6. According to the American College of Surgeons Commission on Cancer Program Standards, abstracts must be completed within ______________ months of date of first contact.
   a. 3
   b. 6
   c. 12
   d. there is no time limit
7. Potentially reportable cases that have been identified and are waiting to be abstracted are stored in what is called the:
   a. Accession Register.
   b. Suspense System.
   c. Master Patient Index.
   d. Reportable List.

8. Completing an abstract as information becomes available is called _______________ abstracting.
   a. consistent
   b. continual
   c. constant
   d. concurrent

9. Indicate which section of the abstract each of the following data items would be grouped. Use the corresponding letter for the section of the abstract.

   P – Patient Identification
   C – Cancer Identification
   S – Stage of Disease at Diagnosis
   F – First Course of Treatment
   O – Outcomes

   _____ Laterality
   _____ Collaborative Stage Tumor Extension
   _____ Date of initial diagnosis
   _____ Vital status
   _____ Accession number
   _____ Hormone therapy
   _____ Behavior code
   _____ Summary Stage
   _____ Histology
   _____ Sequence number
   _____ Diagnostic confirmation
   _____ Radiation therapy
   _____ Social Security number
   _____ Date of last contact
   _____ Race
   _____ AJCC TNM
   _____ Date of birth
   _____ Collaborative Stage lymph nodes
   _____ Class of case
   _____ Surgical procedure of the primary site
   _____ Primary site
   _____ Cancer status
   _____ Grade/differentiation
   _____ Collaborative Stage metastasis at diagnosis
   _____ Chemotherapy
10. Name three of the most common methods of quality control of cancer data.

11. Quality control begins:
   a. when data are being prepared for use in studies and reports.
   b. at the time of abstracting.
   c. when data are being prepared for submission.
   d. when errors are found.

12. When an abstract has passed all of the edits, this means there are no errors in the data.
   a. True
   b. False

13. Sequence number takes into consideration:
   a. only those cases required to be reported by the facility.
   b. only malignant tumors.
   c. all reportable primaries over the lifetime of the patient.

Use the following case scenario to answer Questions 14 to 16.
A patient was seen at the reporting facility in 2006 for lung cancer. The cancer registry abstracted the case and assigned an accession number of 200600132. This same patient returns to the facility in 2010 for a separate stomach primary. The cancer registry will also abstract this case.

14. The year that will be assigned in the accession number for the stomach primary will be ______.

15. The sequence number that should be assigned to the stomach primary is _____.

16. The sequence number for the lung primary should be updated to _____.

Use the following case scenario to answer Questions 17 and 18.
A patient is admitted to the reporting facility for the first time on 05/03/2010 having been recently diagnosed in the physician’s office with prostate cancer. The patient received treatment for the prostate cancer during this admission. This is the only malignant primary cancer this patient has had in his lifetime. This will be the 279th case entered into the database for 2010.

17. The complete accession number that will be assigned for the prostate primary will be ________________.

18. The sequence number that should be assigned to the prostate primary is _____.

19. The codes for the Class of Case data item are divided into two broad categories: ________________ and ________________.
20. What resource should be used to determine whether a patient has one or more than one primary cancer and therefore indicate how many abstracts should be prepared?

21. Match the following words to the appropriate definition.
   A. Class of case
   B. Analytic
   C. Accession number
   D. Sequence number
   E. Date of diagnosis
   F. Visual review
   G. Edits
   H. Text

   _____ A computer program that compares the coded data with the rules for abstracting
   _____ The facility participated in either initially diagnosing and/or delivering all or part of
       the first course of treatment
   _____ Individual abstracts are reviewed to identify incomplete or inaccurate codes and
       information
   _____ Unique number assigned to a patient that can be used as a numerical control to
       identify the patient
   _____ Defines the role of the reporting facility in the management of the patient’s cancer
   _____ The first time a medical practitioner confirms the presence of cancer
   _____ Validates the codes assigned in the abstract
   _____ Indicates the number of primaries a patient has had in his or her lifetime

22. The date of diagnosis is often confirmed __________________________________________
    before a biopsy or surgical resection is performed.

23. List the two agencies to which facilities accredited by the American College of Surgeons
    Commission on Cancer will report their data.

24. List three agencies to which state/territory central cancer registries may report their data.

25. The reporting requirements for each agency in Table 12-4 will be the same.
    a. True
    b. False
Practice: Visual Review

26. Part of the abstracting process is to visually review the abstract before marking it as complete. Provided below are selected data items from the demographic section of an abstract. Review the information provided and put an X in front of the questionable entries that need to be reviewed.

CANCER REGISTRY ABSTRACT SUMMARY: DEMOGRAPHICS

<table>
<thead>
<tr>
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<th>Value</th>
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<tbody>
<tr>
<td>First Name</td>
<td>Jamee</td>
</tr>
<tr>
<td>Last Name</td>
<td>Gonzales</td>
</tr>
<tr>
<td>Date of Birth</td>
<td>01/10/2010</td>
</tr>
<tr>
<td>Sex</td>
<td>Male</td>
</tr>
<tr>
<td>Race</td>
<td>White</td>
</tr>
<tr>
<td>Ethnicity</td>
<td>Non-Hispanic</td>
</tr>
</tbody>
</table>

Practice: Evaluation of the Quality of Text

27. Review the text provided in “Sample Abstract (A)” on the next page. For the data items in bold, circle the data items that cannot be validated using the text. For example, if the primary site is specified clearly in the text, then the Primary Site data item can be validated. For this exercise, it is not necessary to be familiar with the definition of the codes or confirm that the code is correct. For the year, assume that 20xx is the current year.

Practice: Medical Record Review, Recording Text, and the Abstracting Process

28. Practice reviewing the “Sample Medical Record” on pages 7–17. Highlight information in the record that would be pertinent for inclusion in the abstract. Use the blank abstract provided in “Sample Abstract (B)” on page 18 as a guide to the type of information needed.

29. Record the pertinent text using accepted medical abbreviations for the case. Use “Sample Abstract (B)” on page 18 to record the text.

30. Use the coding and staging manuals currently in effect to practice abstracting the sample case. Use “Sample Abstract (B)” on page 18 to record the valid codes for the data items provided. For the purposes of this exercise, only selected data items collected by cancer registries have been included.
### Sample Abstract (A)

**Anytown Hospital, US**

#### PATIENT IDENTIFICATION

<table>
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<tbody>
<tr>
<td>Last Name</td>
<td>DOE</td>
</tr>
<tr>
<td>First Name</td>
<td>JAMES</td>
</tr>
<tr>
<td>Middle Name</td>
<td>JOHN</td>
</tr>
<tr>
<td>Social Sec #:</td>
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<td>Place of Birth:</td>
<td>999</td>
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<td>1</td>
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<tr>
<td>Date Last Contact:</td>
<td>4/13/20xx</td>
</tr>
<tr>
<td>Primary Payer:</td>
<td>61</td>
</tr>
<tr>
<td>Abstracted by:</td>
<td>XYZ</td>
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#### CANCER IDENTIFICATION

<table>
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<tr>
<td>Date 1st Contact:</td>
<td>03/06/20xx</td>
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<tr>
<td>Date Diagnosis:</td>
<td>01/20/20xx</td>
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<tr>
<td>Primary Site:</td>
<td>C61.9</td>
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<td>Laterality</td>
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#### COLLABORATIVE STAGE

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<td>Surg Diag/Stag Proc:</td>
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<tr>
<td>CS Tumor Size:</td>
<td>999</td>
</tr>
<tr>
<td>CS Extension:</td>
<td>210</td>
</tr>
<tr>
<td>CS TS/Ext Eval:</td>
<td>1</td>
</tr>
<tr>
<td>CS Lymph Nodes:</td>
<td>000</td>
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<tr>
<td>CS Reg Nodes Eval:</td>
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<td>Reg LN Pos:</td>
<td>98</td>
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<tr>
<td>Reg LN Exam:</td>
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#### DERIVED STAGE

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<tr>
<td>AJCC T:</td>
<td>c 2A</td>
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<td>CS Mets Eval:</td>
<td>0</td>
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</tr>
<tr>
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<td>150</td>
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<tr>
<td>CS SSF 5-25:</td>
<td>Not included</td>
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<tr>
<td>Summ Stage 2000:</td>
<td>1</td>
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</table>

#### TEXT

**Physical Exam:**

- INDURATION WITH PALPABLE TUMOR AT LT BASE PROSTATE WITHOUT EXTENSION INTO LATERAL SULCUS OR SEMINAL VESICAL. RT SIDE PALPABLY NORMAL. REMAINDER OF EXAM WNL.

**Lab Tests:**

- PSA 8.47 - ELEVATED

**Pathology:**

- TRUS PROSTATE BX, DR STAFF’S OFFICE: ADENOCA WITH SMALL FOCUS OF HG PIN IN LT LOBE. RT SIDE NEG

**Scopes:**

- None

**Op Proc:**

- None

**Staging:**

- LOCAL. NO EXTENSION BEYOND PROSTATE. NO EVID OF LYMPH NODE INVOLVEMENT OR METS CLINICALLY.

**Place of Dx:**

- STAFF MD’S OFFICE

**Primary Site:**

- PROSTATE

**Histology:**

- ADENOCA

**X-Rays/Scans:**

- 1/24/20xx, CXR: NEG.

**Remarks:**

- PT HAS HX OF MELANOMA IN 2004. CURRENTLY W/ NED.
SAMPLE MEDICAL RECORD

General Instructions for Abstracting the Breast Medical Record:

Not all reports typically found on a medical record have been provided. Only those pertinent for abstracting this case are included. All hand written reports and documentation are provided in typed form for easier review.

Valid codes: As you abstract each data item, you should review the coding instructions in the coding and staging manuals (FORDS, ICD-O-3, CS Manual, etc.). For each data item, record the valid code provided in these manuals. For example, for grade, the valid code in the FORDS for well differentiated is “1”. Enter “1” in the grade data item field. In the text, enter “WD” to justify the grade.

Text: Include descriptive text to justify the coded data items in the provided text fields. The text provided on the answer sheet is the suggested wording. Your text may not follow this wording format exactly. However, the content should be the same – dates, procedures, findings, etc.

Abbreviations: Use accepted medical abbreviations when summarizing the report findings.

Physicians: All physicians mentioned are on staff and have admitting privileges at Anytown Hospital. Plastic Surgery Center and The Radiology Group are a privately owned practices not owned by Anytown Hospital. For the physician and facility data items, enter the physician’s last name or facility name as appropriate.

Treatment: Record all first course of therapy documented, regardless of where given. For this exercise, recording treatment given “at this facility” is not required. If there is no recommendation of a specific treatment modality, then code as if it was not given.

Stage: In an electronic cancer registry database, the AJCC TNM Stage and SEER Summary Stage would be derived from the Collaborative Stage data items. For the purpose of this exercise, you should use your AJCC 7th Edition TNM Staging Manual and the SEER Summary Staging Manual 2000 to assign the AJCC TNM Stage and the SEER Summary Stage. For the purposes of this exercise, if there is no mention of involvement, assume there is none.

Accession number: The last accession number entered in the cancer registry database for a 20xx diagnosis was 20xx00258.

County code: To assign the county code, use the FIPS code provided on the face sheet.

Outcome data items and other selected data items: The outcomes, follow-up, and other selected data items will not be collected in this exercise. If the data item is not listed on the abstracting worksheet, then it is not required to be abstracted.

Dates: The year is indicated by “20xx” in the medical record and on the answer sheet. Assume that 20xx is the current year.
INPATIENT ADMISSION

MED REC NUM: 000321987

ADMISSION DATE: 08/22/20xx  AGE: 56 Y  SEX: F
DISCHARGE DATE: 08/27/20xx  RACE: W  DOB: 11/03/1954

ADMITTING PHYSICIAN: Chase Book, MD

PATIENT INFORMATION:
Feather, Apple M.
852 Gala Road
Anytown, US 19375

SSN: 963-85-2741  FIPS COUNTY: 165

MDC/DRG ASSIGNMENT:

REIMBURSEMENT: $

PRINCIPAL DIAGNOSIS:
174.8 Malignant Neoplasm Of Other Specified Sites Of Female Breast

SECONDARY DIAGNOSIS:
2. 300.4 Depression with anxiety
4. V10.03 Personal Hx Malign Neopl Breast
6.
8.
10.
3. 289.89 Oth spec dis blood/blood-forming organs
5.
7.
9.
11.

PROCEDURES

DATE

PHYSICIAN

85.41 Unilateral simple mastectomy 08/22/20xx Chase Book, MD
85.95 Insertion of breast tissue expander 08/22/20xx Reece Azure, MD
85.71 Lastissimus dorsi myocutaneous flap 08/22/20xx Reece Azure, MD

INSURANCE INFORMATION

INS # 1: Managed Care Plan through Employer

INS # 2:

ATTENDING PHYSICIAN: Chase Book, MD  DATE: 08/27/20xx
HISTORY AND PHYSICAL REPORT

DATE OF BIRTH: 11/03/1954

HISTORY OF PRESENT ILLNESS: This is a 56-year-old female who presents to the Plastic Surgery Center for consultation with Dr. Azure with regards to breast cancer reconstruction. The patient has a history of breast cancer in the left breast in 1999, at which time she underwent excisional biopsy, lymph node dissection and radiation therapy on the left side. There has been no residual evidence of disease since completing treatment. Subsequently, she has recently been diagnosed with a recurrent breast cancer in the left breast by Dr. Book. A mass was detected on a follow-up mammogram in 07/20xx. On 08/02/20xx, she underwent MRI and repeat mammography. It was thought that the lesion was consistent with a cancerous growth. Therefore, she is scheduled 08/22/20xx for a left breast mastectomy with Dr. Book and comes in to discuss her reconstructive option with Dr. Azure.

PAST MEDICAL HISTORY: Significant for a history of breast cancer of the left breast, depression, anxiety, pseudocholine esterase deficiency.

MEDICATIONS: Lorazepam, Cymbalta and Seroquel.

ALLERGIES: Include sulfa and Penicillin.

SOCIAL HISTORY: She is a nonsmoker.

REVIEW OF SYSTEMS: Breast size: At this time, patient states that the left breast is significantly smaller than the right. She would like to obtain some symmetry in the breasts postoperatively. Dr. Book has told her that after her mastectomy she will require chemotherapy but not radiation therapy.

PHYSICAL EXAMINATION: The patient is seen and evaluated by Dr. Azure. This is an alert and oriented female, in no acute distress. The patient does have abdominal obesity. Upon evaluation of the breast, there is significant ptosis of bilateral breasts, right greater than left, and volume on the right is greater than on the left. Upon evaluation of the left breast, there are 2 scars, one at the 12 o’clock position in a horizontal fashion, the next in the 7 o’clock position at the edge of the nipple areolar complex. There does not appear to be any radiation damage to the skin that is apparent and no tattoos are visible. Abdominal evaluation does reveal ptotic skin in the lower abdominal region and evaluation of the latissimus dorsi site on the left does reveal adequate tissue as well for flap reconstruction. There are no palpable lymph nodes in the axilla, supraclavicular or cervical areas. Remainder of exam unremarkable.

ASSESSMENT: Breast cancer of the left breast in a patient with moderate obesity and history of radiation therapy. The plan has been discussed with the patient. The risks and benefits of flap reconstructions be it the TRAM flap versus the latissimus dorsi flap with expander placement. Given the risk to benefit ratio, we have recommended and the patient has agreed to undergo a left breast mastectomy followed by a left latissimus dorsi flap reconstruction with expander placement. Given the extent of the surgery and the flap reconstruction, she will likely need a length of hospital stay of 5-7 days for frequent flap checks, Doppler checks, pain management and observation. The patient is agreeable to this plan. The risks and benefits have been discussed and she will follow up on 08/22/20xx for her surgery.

E-Signed By: Reece Azure, MD 08/16/20xx 10:24
Note dictated by: ASD 000654987321 MR#: 0003219877147852
CC: Chase Book, MD
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<td>000654987321</td>
</tr>
<tr>
<td><strong>Accession</strong></td>
<td>7894561</td>
</tr>
<tr>
<td><strong>Patient</strong></td>
<td>Apple M. Feather</td>
</tr>
<tr>
<td><strong>D.O.B.</strong></td>
<td>11/03/1954</td>
</tr>
<tr>
<td><strong>Sex</strong></td>
<td>F</td>
</tr>
<tr>
<td><strong>Requested By</strong></td>
<td>Chase Book, MD</td>
</tr>
<tr>
<td><strong>Reason for Study</strong></td>
<td>Hx breast ca 10 yrs ago. Left breast new mammo at same site.</td>
</tr>
<tr>
<td><strong>Exam Date/Time</strong></td>
<td>08/02/20xx 22:44</td>
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<tr>
<td><strong>Exam Type</strong></td>
<td>MRI BILAT BREST</td>
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**MRI OF THE BREASTS BILATERALLY WITHOUT AND WITH GADOLINIUM, WITH IMAGE SUBTRACTION, MIP AND MPR ON INDEPENDENT 3D WORKSTATION**

**CLINICAL HISTORY:**
Personal history breast cancer on the left side 10 years ago. Now presenting with a new suspicious lump in the left breast at the 12:00 position.

**REVIEW OF MAMMOGRAMS:**
Digital mammogram from The Radiologist Group on 07/16/20xx demonstrates a spiculated irregular mass containing pleomorphic calcifications in the left breast at the 12:00 position. This is highly suspicious for malignancy.

**TECHNIQUE:**
Fat saturation T2 axial. STIR coronal. Fat saturation T1 3D volume gradient echo axial thin sections before and five times after Gadolinium administration. CADstream 3D workstation image motion registration, followed by subtraction. Multiplanar reconstruction and 2D slab MIP reconstruction. 3D temporal MIP projections.

**MRI RESULTS:**
There is focal enhancement in the left breast at the 12:00 position matching the area of lesion on the mammogram. The lesion is irregular, measuring 16 x 14 x 8 mm. Enhancement is strong and rapid with plateau to washout kinetics. There is no evidence of multifocal or multicentric disease in the left breast. There is no evidence of synchronous disease in the contralateral right breast.

**IMPRESSION:**
MRI results are compatible with a unifocal enhancing invasive malignancy in the left breast at the 12:00 position. Lesion measurements by MR criteria for a 16 x 14 x 8 mm.

Faxed to referring doctor’s office.

**STAFF:** Jean Frame, MD
REPORT OF OPERATION

PREOPERATIVE DIAGNOSIS: Probably carcinoma, left breast.

NAME OF PROCEDURE: Left total mastectomy.

POSTOPERATIVE DIAGNOSIS: Probably carcinoma, left breast.

SURGEON: Dr. Chase Book

ASSISTANT: Dr. Keen Gate

ANESTHESIA: General.

INDICATIONS: This is a 56-year-old female, who in 1999 underwent a lumpectomy and left axillary lymph node sampling for a tubular carcinoma in the left breast. She was recently found to have a suspicious mass approximately a cm and a half in diameter at the 12 o’clock position in the left breast. Following outpatient consultation with general plastic and oncologic services, she is brought to the operating room for a left total mastectomy, with hopefully being able to do a left sentinel node biopsy followed by plastic surgical reconstruction with latissimus dorsi flap and expander.

OPERATIVE FINDINGS: The patient with absolutely no uptake of a technetium isotope in the supraclavicular or the axillary regions, so sentinel node biopsy was abandoned.

DESCRIPTION OF PROCEDURE: With the patient supine on the operating room table under general anesthesia, the left chest and left arm were prepped and draped appropriately. Perioperative antibiotic prophylaxis was given, pneumatic boots, Foley catheter were in place. The patient’s skin incision site had been previously diagramed, a periareolar incision extending in a V-shaped pattern to the mid portion of the breast laterally. This incision was then performed and the dermis divided with cutting cautery down to the breast fatty tissue. Tenaculums were placed on the skin and using electrocautery, a plane in the fatty tissue was created superiorly to just below the clavicle, medially to the lateral border of the sternum, inferiorly to just above the rectus muscles, and laterally beyond the border f the pectoralis major muscle laterally. The incision was carried down to the anterior pectoralis major fascia. Hemostasis was obtained with cautery and ties of 3-0 silk. A plane was created between the pectoralis fascia and the breast tissue from the medial to lateral direction and the breast tissue removed. A skin suture was placed at 12 o’clock long and laterally a short suture was placed in order to orient the specimen for pathology. The wound was irrigated and dried. Several small bleeders were ligated with 3-0 silk. At this point, the case was turned over to Dr. Azure’s plastic reconstruction team.

E-Signed By: Chase Book, MD

Note dictated by: Chase Book, MD

QW
000321987/147852

Cc: Reece Azure, MD
Patient: Apple M. Feather  
Acct #: 000654987321  
MR#: 000321987

D.O.B. 11/03/1954  
Admit 08/22/20xx  
Discharge 08/27/20xx  
Surgery 08/22/20xx

REPORT OF OPERATION

PREOPERATIVE DIAGNOSIS: Carcinoma of the left breast.

POSTOPERATIVE DIAGNOSIS: Carcinoma of the left breast status post left breast mastectomy (Dr. Chase Book).

PROCEDURE:
1. Mastectomy left breast (Dr. Chase Book).
2. Tissue expander reconstruction, left breast.
3. Left breast closure/reconstruction with Lat dorsi myocutaneous flap.

SURGEON: Reece Azure, M.D.

ASSISTANT: Gage Pale, M.D.

SECOND ASSISTANT: None.

ANESTHESIA: General.

INDICATIONS: The patient is a 56-year-old female undergoing a left breast mastectomy for longstanding history of carcinoma and recent biopsy with confirmation of this.

I reviewed the risks, benefits and alternatives of various reconstruction considerations with this woman who has large breasts on the right side. She has previous skin incisions on the left side substantially limiting options for non-flap related tissue closure. We have considered both TRAM and lat dorsi and I recommended the TRAM and she is rather moderately obese and I feel there is significant vascularity and abdominal risks associated with this. She is to undergo a mass simple mastectomy and tissue expander placement covered by a lat dorsi myocutaneous flap.

DESCRIPTION OF PROCEDURE: The patient brought in the OR, placed supine, underwent appropriate anesthesia, sterile prep of the chest areas, which were marked jointly by Dr. Book and myself and the patient then underwent a left breast mastectomy through those outlined incisions. This will be dictated separately by Dr. Book.

Careful identification lateral pectoral border was made and retropectoral space was dissected carefully from surrounding structures including disinsertion of the entire inferior and medial lower portion of the pectoralis allowing this to window shade superiorly to create a space to place tissue expander. A breast tissue expander was suitably prepared and filled with a total of 300 mL and after extensive irrigation with both saline and antibiotic solution was confirmed for hemostasis and the tissue expander was placed and secured with a 2-0 PDS suture. Excellent inframammary fold orientation in medial breast orientation was accomplished.

We then stapled this wound closed, covered it with an impermeable Op-Site dressing, placed in the right lateral decubitus position then reprepped and redraped the back and breast areas.
REPORT OF OPERATION, continued

A skin template was outlined over Lat dorsi was made to fill the proposed defect.

Incisions were made, dissection carried down obliquely to carry small amount of additional subcutaneous tissue down to Lat dorsi muscle, which was identified retro latissimus space was entered and the flap elevated distal proximally. The flap was disinserted from the humeral origin. The thoracodorsal nerve was isolated and divided and the flap was isolated on the thoracodorsal vessels.

Peripheral dissection was carefully carried out extensive inspection for hemostasis was confirmed. The flap was then transposed into the chest area after removing the skin staple closure.

The flap was inset in the chest area and extensive irrigation of the back area was accomplished following which primary closure of the Lat dorsi donor site with placement of two 19 round Blake drains was accomplished with 2-0 PDS, 3-0 Monocryl and skin staples.

Anteriorly, the wounds were closed with Monocryl and Prolene. Excellent size, shape, and overall contour of this portion of the reconstruction was made and additional 19 round Blake drain was brought out and placed in the chest area. Sterile dressings were applied. The patient tolerated the procedure well. She was transferred to recovery in stable condition.

E-Signed By: Reece Azure, MD 08/27/20xx 07:56

Note dictated by: Reece Azure, MD

QW 000321987/147852

Cc: Chase Book, MD
Anatomic Pathology Report

Specimen Date: 08/22/20xx

Pathologist: Mason Wood, MD

ADDENDUM REPORT

An addendum has been made to the report; please refer to the end of the report for the additional information.

DIAGNOSIS

Left Breast, Mastectomy:

- **INVASIVE DUCTAL CARCINOMA**
  - Differentiation: Moderate
  - Location: Superior, midline
  - Tumor Size: 1.6 x 1.2 x 1.0 cm
  - Necrosis: Absent
  - Lymphatic Vessel Invasion (L): L1 Lymphatic vessel invasion present
  - Venous Invasion (V): V0 No venous invasion
  - In-situ Carcinoma: PRESENT
    - Subtype: Comedo, cribriform
    - Nuclear Grade: 3/3
    - Percent of Total Invasive Tumor Volume: 20%
    - EIC: Absent
  - Margins: Negative

- Distance to Closest Margin: 0.1 cm
  - Anterior-Superior Margin: 0.1 cm
  - Anterior-Inferior Margin: 15.0 cm
  - Posterior Margin: 1.0 cm
  - Lateral Margin: 6.5 cm
  - Medial Margin: 7.5 cm
  - Superior Margin: 0.5 cm
  - Inferior Margin: 16.0 cm

- Skin Involvement: Absent
  - Dermal Lymphatic Involvement: Absent

- Nipple:
  - Paget’s Disease: Absent
  - DCIS or Invasion: Absent

- Other Invasion: None
DIAGNOSIS (Continued)

- Microcalcifications: Present
  - Location: Within ducts and stroma and tumor

- pT1c NX

- Receptor status: Pending

- Associated Findings: Stromal fibrosis and organized fat necrosis

CLINICAL HISTORY

Previous history of breast carcinoma.

GROSS DESCRIPTION

Specimen is received fresh labeled “left breast” and consists of a left breast with attached fibrofatty adipose tissue measuring in aggregate 18.0 x 15.0 x 12.0 cm and weighs 370 grams. There is attached skin with the nipple which measures 9.0 x 5.0 cm and the nipple measures 1.0 x 1.0 x 0.5 cm. The nipple appears tan/white in color and unremarkable. The areola measures 1.0 cm in diameter. There are no scars on the skin surface. The specimen is oriented by a long suture at the 12:00 position and short suture in the lateral axillary position. The margins are inked in the following order: posterior=black, superior=yellow, inferior=orange. The specimen is serially sectioned to reveal unremarkable fibrofatty adipose tissue admixed with tan-white breast tissue. One possible area of nodularity and firmness measuring 1.0 x 1.0 x 1.0 cm is discovered in the vicinity of 12:00 position. Otherwise the breast tissue seems unremarkable. Axillary fat is dissected but no lymph nodes were found.

QWE

A,B – fat from axilla
C1 – section from medial and inferior
D1 – section from medial and superior
E1 – sections from midline and inferior
F1 – sections from midline and superior
G1 – sections from lateral and inferior
H1 – sections from lateral and superior
I1,J1,K1 – sections from the nodule at the 12:00 position
L1,M1 – other sections from white appearing areas
N1 - nipple
O1 – shave from skin margin

Dictated by: Mason Wood, MD
Addendum #2  Entered: 08/29/20xx – 10:49

The following Her-2/neu immunohistochemical study was performed on zinc formalin fixed paraffin embedded tissues using the DAKO HercepTest kit and morphometrically analyzed on the Chromavision Automated Cellular Imaging System. A score of 2.0 or above is considered overexpressed.

- Her-2/neu: --------------------------------- Not overexpressed (score 1.7)

In view of the borderline HER-2 expression (score 1.7), Flowrescent In Situ Hybridization (FISH) has been ordered for evaluation of HER-2 gene amplification. A separate report will be issued to include FISH results.

Addendum Signed _____(signature on file) ______ Mason Wood, MD 08/29/20xx at 1601 (final)

IMMUNOSTAINING:
- Estrogen Receptor: Positive in >90% of tumor cell nuclei in both DCIS and invasive carcinoma.
- Progesterone Receptor: Positive in <10% of invasive tumor cells. Positive in >90% of tumor cell nuclei in DCIS.

Addendum Signed ______(signature on file) _____ Mason Wood, MD 08/28/20xx at 0952 (final)

Signed ______(signature on file) ______ Mason Wood, MD 08/23/20xx at 2215 (final)
Anatomic Pathology Report

Specimen Date: 08/22/20xx
Pathologist: Mason Wood, MD

DIAGNOSIS

20xx: S-0334455 LEFT BREAST

NEGATIVE: Amplification of the HER2/neu gene 17q11.1-q12 was not detected. (HER2/CEP17 RATIO: 1.25; HER2 COUNT: 141; CEP17 COUNT: 113)
Tumor nuclei had 4 copies of HER2/neu and 3 copies of CEP17.

CLINICAL HISTORY

HISTORY OF BREAST CANCER

TEST DESCRIPTION

Dual-color Fluorescent In Situ Hybridization was performed using the Vysis Pathvysion probe set. These probes recognize the HER2/NEU oncogene and CEP17, the internal centromeric control for chromosome 17. Tumor cells were identified and hybridization signals were counted using a fluorescent microscope. Fluorescent signal in normal cells (e.g., lymphocytes) was used as an internal quality control for probe specificity and sensitivity. An adjacent H&E stained tissue section was reviewed to confirm tumor status and cell morphology. The FDA has approved this test for clinical use.

Signed ______(signature on file)______ Mason Wood, MD 08/31/20xx at 1548 (final)
### Patient Identification

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### Derived Stage

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<td>Immunotherapy:</td>
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<td>Transplant/Endocrine:</td>
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</table>
1. What are the six common sections of a cancer registry abstract?
   a. Patient identification
   b. Cancer identification
   c. Stage of disease at diagnosis
   d. First course of treatment
   e. Outcomes
   f. Case administration

2. The cancer registry abstract incorporates only the information that is available in the medical record.
   a. True
   b. False
   The cancer registry abstract contains all information available related to the diagnosis and treatment of the cancer. Contact with physicians or other health care providers may be necessary to capture the complete information.

3. Number the abstracting activities listed below in the order in which they are performed.
   4. Prepare the abstract.
   6. Disseminate data for reports and studies.
   3. Determine whether the case is a new or separate primary.
   5. Conduct quality control on the data.
   2. Gather source documents.
   1. Identify potentially reportable cases.

4. The cancer data collection manual required to be used by the American College of Surgeons Commission on Cancer is the **FORDS**.

5. The goals for abstracting are to have **timely, accurate, and complete** cancer data.

6. According to the American College of Surgeons Commission on Cancer Program Standards, abstracts must be completed within _____ months of date of first contact.
   a. 3
   b. 6
   c. 12
   d. there is no time limit
7. Potentially reportable cases that have been identified and are waiting to be abstracted are stored in what is called the:
   a. Accession Register.
   b. Suspense System.
   c. Master Patient Index.
   d. Reportable List.

8. Completing an abstract as information becomes available is called _________ abstracting.
   a. consistent
   b. continual
   c. constant
   d. concurrent

9. Indicate which section of the abstract each of the following data items would be grouped. Use the corresponding letter for the section of the abstract.

   P – Patient Identification
   C – Cancer Identification
   S – Stage of Disease at Diagnosis
   F – First Course of Treatment
   O – Outcomes

   C   Laterality
   S   Collaborative Stage Tumor Extension
   C   Date of initial diagnosis
   O   Vital status
   P   Accession number
   F   Hormone therapy
   C   Behavior code
   S   Summary Stage
   C   Histology
   P   Sequence number
   C   Diagnostic confirmation
   F   Radiation therapy
   P   Social Security number
   O   Date of last contact
   P   Race
   S   AJCC TNM
   P   Date of birth
   S   Collaborative Stage lymph nodes
   C   Class of case
   F   Surgical procedure of the primary site
   C   Primary site
   O   Cancer status
   C   Grade/differentiation
   S   Collaborative Stage metastasis at diagnosis
   F   Chemotherapy
10. Name three of the most common methods of quality control of cancer data.
   You may have named any three of the following most common methods:
   a. Visual review
   b. Computerized data edit checks
   c. Physician review of abstracted data
   d. Reabstracting audits
   e. Targeting specific areas of review through the generation of reports from the cancer registry database

11. Quality control begins:
   a. when data are being prepared for use in studies and reports.
   b. at the time of abstracting.
   c. when data are being prepared for submission.
   d. when errors are found.
   Quality control should be done in all of these situations. However, it begins at the time of abstracting by having trained and knowledgeable staff performing the abstracting and by following the established data reporting standards.

12. When an abstract has passed all of the edits, this means there are no errors in the data.
   a. True
   b. False
   There are many types of errors that edits are not able to identify. For example, the edits program cannot compare the codes with the original source document and determine that a different subsite of the primary organ should be the primary site. The cancer registry should be utilizing multiple methods of quality control to evaluate the accuracy of the data.

13. Sequence number takes into consideration:
   a. only those cases required to be reported by the facility.
   b. only malignant tumors.
   c. all reportable primaries over the lifetime of the patient.

Use the following case scenario to answer Questions 14 to 16.

A patient was seen at the reporting facility in 2006 for lung cancer. The cancer registry abstracted the case and assigned an accession number of 200600132. This same patient returns to the facility in 2010 for a separate stomach primary. The cancer registry will also abstract this case.

14. The year that will be assigned in the accession number for the stomach primary will be 2006.
   Once an accession number is assigned to a patient, it is never changed or updated, even if the patient returns at a later time with a subsequent primary.
15. The sequence number that should be assigned to the stomach primary is 02.
   This is the second malignant primary for this patient in his or her lifetime.

16. The sequence number for the lung primary should be updated to 01.
   The sequence number for the lung primary should be updated from 00 to 01 to reflect that
   the patient has more than one malignant primary and the lung primary was the first malig-
   nant primary diagnosed.

Use the following case scenario to answer Questions 17 and 18.

A patient is admitted to the reporting facility for the first time on 05/03/2010 having been
recently diagnosed in the physician’s office with prostate cancer. The patient received
 treatment for the prostate cancer during this admission. This is the only malignant primary
cancer this patient has had in his lifetime. This will be the 279th case entered into the
database for 2010.

17. The complete accession number that will be assigned for the prostate primary will be
   201000279.
   The accession number is a nine-digit number. The first four digits of the number indicate the
   year in which the patient was first seen for cancer in the reporting institution (2010 in this
   scenario). The remaining five digits of the number are the sequential order in which the
   patient was identified by the registry or abstracted into the database (00279 in this scenario).

18. The sequence number that should be assigned to the prostate primary is 00.
   The patient has only one malignant primary cancer.

19. The codes for the Class of Case data item are divided into two broad categories: analytic
   and nonanalytic.

20. What resource should be used to determine whether a patient has one or more than one
    primary cancer and therefore indicate how many abstracts should be prepared?
    
    2007 Multiple Primary and Histology Coding Manual
21. Match the following words to the appropriate definition.

- **A. Class of case**
- **B. Analytic**
- **C. Accession number**
- **D. Sequence number**
- **E. Date of diagnosis**
- **F. Visual review**
- **G. Edits**
- **H. Text**

**G.** A computer program that compares the coded data with the rules for abstracting

**B.** The facility participated in either initially diagnosing and/or delivering all or part of the first course of treatment

**F.** Individual abstracts are reviewed to identify incomplete or inaccurate codes and information

**C.** Unique number assigned to a patient that can be used as a numerical control to identify the patient

**A.** Defines the role of the reporting facility in the management of the patient’s cancer

**E.** The first time a medical practitioner confirms the presence of cancer

**H.** Validates the codes assigned in the abstract

**D.** Indicates the number of primaries a patient has had in his or her lifetime

22. The date of diagnosis is often confirmed **clinically** (such as on physical examination, radiology, laboratory test) before a biopsy or surgical resection is performed.

23. List the two agencies to which facilities accredited by the American College of Surgeons Commission on Cancer will report their data.

- The NCDB and the state/territory’s central cancer registry

24. List three agencies to which state/territory central cancer registries may report their data.

You may have listed any three of the following:

- a. NAACCR
- b. NPCR
- c. SEER
- d. Canadian Cancer Registry

25. The reporting requirements for each agency in Table 12-4 will be the same.

- a. True
- b. False

Each agency has a specific purpose for the requirements that are imposed. Therefore, the data collection and reporting requirements for each agency will differ. The cancer registry must make sure that the requirements for each agency the data are reported to are met.
Practice: Visual Review

26. Part of the abstracting process is to visually review the abstract before marking it as complete. Provided below are selected data items from the demographic section of an abstract. Review the information provided and put an X in front of the questionable entries that need to be reviewed.

CANCER REGISTRY ABSTRACT SUMMARY: DEMOGRAPHICS

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Answer:

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<tr>
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<td>X Non-Hispanic</td>
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- This is an unusual spelling of the first name. Check to see whether the first name is correct, or if perhaps it should be James or Jamie.
- Also, if the name is “Jami,” this could indicate a male or female. The sex should also be reviewed.
- The last name “Gonzales” is an indication that this person may be of Spanish/Hispanic origin. A more specific ethnicity code will apply.
- The Date of Birth could possibly be the same as the Date of Diagnosis. This should be reviewed.

Practice: Evaluation of the Quality of Text

27. Review the text provided in “Sample Abstract (A)” on page 6. For the data items in bold, circle the data items that cannot be validated using the text. For example, if the primary site is specified clearly in the text, then the Primary Site data item can be validated. For this exercise, it is not necessary to be familiar with the definition of the codes or confirm that the code is correct. For the year, assume that 20xx is the current year.

Answer:

The data items that could NOT be validated using the text were:
- Patient Identification: Sex, Race, Date (Year) of Birth/Age at Diagnosis
- Cancer Identification: Date of Diagnosis, Grade, Date of Diag/Stag Procedure
- Treatment: Date Systemic Treatment Started and where given (for determining class of case)

Text to support critical information such as age, sex, race, grade, and dates are often omitted from the text. The text underlined below demonstrates what additional text would have been needed to validate these data items.

Physical examination: 78 yo white male. Induration with palpable tumor at Lt base prostate without extension into lateral sulcus or seminal vesical. Rt side palpably normal. Remainder of exam WNL.

Laboratory tests: PSA 8.47—elevated

Pathology: 1/20/20xx, TRUS prostate bx. Physician’s office: Gleason 3 + 3 = 6 adenoca with small focus of HG PIN in Lt lobe. Rt side neg.

Staging: Local. No extension beyond prostate. No evi of lymph node involvement or mets clinically.

Place of Dx: Staff MD’s office
Primary site: prostate
Histology: Adenoca
X-rays/scans: 1/24/20xx, CXR: neg.
Remarks: Pt has Hx of melanoma in 2004. Currently w/ NED.
Radiation: 3/6/20xx, Anytown Hospital: I-125 seed implant
Hormone: 4/20xx (estimated). Dr Staff’s office: Lupron

Practice: Medical Record Review, Recording Text, and the Abstracting Process

28. Practice reviewing the “Sample Medical Record” on pages 7–17. Highlight information in the record that would be pertinent for inclusion in the abstract. Use the blank abstract provided in “Sample Abstract (B)” on page 18 as a guide to the type of information needed.

29. Record the pertinent text using accepted medical abbreviations for the case. Use “Sample Abstract (B)” on page 18 to record the text.

Answers:
(The text may not be worded exactly the same but should contain the same content.)

Physical examination: 56yo WF. Referred by Dr. Book for F/U MMG which detected a mass. No palp LN. Remainder exam WNL.

Laboratory tests: 8/22/20xx: Her-2/neu – score 1.7 borderline on IHC, 1.25 ratio neg on FISH. ER+ PR+

Pathology: 8/22/20xx, Mastectomy, Anytown Hosp: L breast w/ mod diff inv duct carc w/ comedo/cribriform DCIS. TS: .6x1.2x1cm. DCIS is 20% of total tumor volume.Margins neg, pT1c NX

Scopes: None

Op Proc: 8/22/20xx: No uptake of technetium isotope in supraclavicular or axillary regions. SLNBx abandoned.

Staging: Confined to breast. No evid of LN or other involvement clinically.

Place of Dx: Dr. Book’s office

Primary site: Lt breast, 12:00

Histology: MD inv ductal carc

X-rays/Scans: 7/16/20xx, MMG, Radiologist Group: Spiculated irreg mass in Lt breast at 12:00. Highly susp for malignancy. 8/2/20xx, MRI bilat breast, Radiology group: Unifocal enhancing invasive malig in Lt breast at 12:00 matching area seen on MMG. Lesion meas 16 x 14 x 8 mm. Rt breast NED.

Remarks: Hx Lt breast tubular carc in 1999. Pt treated w/lumpectomy, Lt axillary LND and RT. NED of previous tumor. MP/H Rules: this is a 2nd primary.

Surgery: 8/22/20xx, Anytown Hosp: Lt total mastectomy followed by lat dorsi flap and expander. Sentinel node bx attempted but no nodes identified so abandoned.

Radiation: Not recommended. Pt had RT to Lt Breast in 1999.

Chemotherapy: Recommended. Letter sent to Dr. Book to confirm.

Hormone/Steroid: Not mentioned, but ER/PR+. Letter to Dr. Book to confirm.

Immunotherapy: None

Transplant/Endocrine: None
30. Use the coding and staging manuals currently in effect to practice abstracting the sample case. Use “Sample Abstract (B)” on page 18 to record the valid codes for the data items provided. For the purposes of this exercise, only selected data items collected by cancer registries have been included.

Note: There will not be answers provided for this exercise. This is a practice of the abstracting process only.
study questions

1. Name the current coding books used in the United States for (a) coding mortality and (b) coding neoplasms for cancer registries.

2. Describe at least two differences between ICD and ICD-O.

3. The complete ICD-O code for a neoplasm contains 10 characters. What are the principal parts of the code and what do they represent?

4. What is the most important concern in coding neoplasms?

5. Name three organizations that have helped to develop the topography and morphology codes used to code neoplasms.

6. Describe at least two events or discoveries that precipitated the development of the MP/H rules.

7. Describe the differences among the three formats for the MP/H rules.

8. Explain why the multiple primaries rules must be applied before the histology coding rules.

9. If a cancer case does not fit into the site-specific MP/H rules, what happens to it?

10. What additional modules are included in the Hematopoietic and Lymphoid Neoplasm Case Reportability and Coding rules?
1. Name the current coding books used in the United States for (a) coding mortality and (b) coding neoplasms for cancer registries.
   (a) International Classification of Diseases, tenth revision (ICD-10). Another name for coding “mortality” is coding death certificates.
   (b) International Classification of Diseases for Oncology, third edition (ICD-O-3)

2. Describe at least two differences between ICD and ICD-O.
   You may have named any two of the following:
   a. Code structure (ICD-9 is numeric; ICD-O is alphanumeric)
   b. Code length (ICD-9 is 5 digits; ICD-O is 10 digits)
   c. Single axis (ICD-9) versus dual axis (ICD-O)
   d. Codes all diseases (ICD-9) versus codes neoplasms only (ICD-O)
   e. ICD-O is only a subset of ICD

3. The complete ICD-O code for a neoplasm contains 10 characters. What are the principal parts of the code and what do they represent?
   a. Topography (primary site): 4 characters
   b. Morphology (cell type): 4 digits
   c. Behavior: 1 digit
   d. Grade or differentiation: 1 digit

4. What is the most important concern in coding neoplasms?
   Accuracy

5. Name three organizations that have helped to develop the topography and morphology codes used to code neoplasms.
   a. World Health Organization
   b. College of American Pathologists
   c. American Cancer Society

6. Describe at least two events or discoveries that precipitated the development of the MP/H rules.
   You may have named any two of the following:
   a. Increased use of noninvasive imaging techniques (computed tomography and magnetic resonance imaging)
   b. Development of advanced laboratory procedures
   c. Increased documentation of clinical and pathologic information in the medical record
   d. Difficult to train on old rules—too many exceptions
   e. Old rules could not be flowcharted for computer applications
   f. New codes in ICD-O-3 were not always in hierarchical order
7. Describe the differences among the three formats for the MP/H rules.
   - Text: full sentences similar to other coding manuals
   - Matrix: tables with labeled columns defining the elements of the rule’s concept and the result (one primary, more than one primary, or the correct code)
   - Flowchart: similar to a computer program, stating the rule as a question and then indicating what to do, based on whether the answer to the question is yes or no

8. Explain why the multiple primaries rules must be applied before the histology coding rules.
   Histology rules apply to a single abstract. The multiple primaries rules determine how many abstracts to prepare.

9. If a cancer case does not fit into the site-specific MP/H rules, what happens to it?
   The "Other Sites" rules apply.

10. What additional modules are included in the Hematopoietic and Lymphoid Neoplasm Case Reportability and Coding rules?
    Case Reportability, Primary Site and Histology (PH rules), and Grade Coding (G rules)
1. Staging is defined as:
   a. a rating system of when a patient should be treated.
   b. a detailed system defining the normal values of biological markers.
   c. a common language developed to communicate information on the extent of disease.
   d. an analysis system to provide exact survival times for individual patients.

2. The purpose of staging is:
   a. to assess the cancer and choose the appropriate treatment.
   b. to indicate prognosis.
   c. to estimate survival rate.
   d. all of the above.

3. Prognostic factors are:
   a. key pieces of information for patient management.
   b. only laboratory tests or tumor markers.
   c. only additional information on pathology reports.
   d. only genetic tests or markers.

4. Why do staging systems change over time?
   a. New anatomic sites are discovered.
   b. New information is found and changes occur in the practice of medicine.
   c. Replacements for worn-out manuals are needed.
   d. The reviewing physicians add their names to the system.
5. Cancer cells metastasize by which method(s)?
   a. By the primary tumor growing larger until it invades other structures
   b. Only through the bloodstream
   c. Through the bloodstream or lymphatic system, by direct extension to other organs, or by implantation in body cavities
   d. They must start in many cells at the same time

6. Cases treated with neoadjuvant therapy must be staged using which prefix in AJCC?
   a. n
   b. y
   c. x
   d. None of the above

7. Neoadjuvant therapy is defined as:
   a. systemic or radiation therapy prior to surgical resection.
   b. two or more treatment procedures.
   c. two or more different treatment procedures.
   d. surgical resection followed by systemic or radiation therapy.

8. Summary stage can be categorized as:
   a. forward flexibility and clinical utility.
   b. only useful with large groups of cases.
   c. capturing data at different points in time.
   d. broad categories with longitudinal stability.

9. The National Program of Cancer Registries uses which CS-derived stage?
   a. AJCC
   b. Summary Stage
   c. AJCC elements but not the stage group
   d. None of the above

10. CS resolved which issue between the other staging systems?
    a. Timing rules
    b. Depth of invasion
    c. Tumor size
    d. Distant lymph nodes

11. How many CS data items are there, excluding the site-specific factors?
    a. 10
    b. 6
    c. 9
    d. 7
12. AJCC staging system can be categorized as:
   a. broad with longitudinal stability.
   b. only capturing data at one point in time.
   c. categories that rarely change.
   d. forward flexibility and clinical utility.

13. How did the number of CS site-specific factors expand from CSv1 to CSv2?
   a. From 6 to 25
   b. From 6 to 15
   c. From 4 to 25
   d. From 5 to 20

14. CS best stage is defined as:
   a. the last stage for the patient.
   b. only information after treatment.
   c. a mixture of clinical and pathologic information; using the most definitive information available.
   d. the first information found.

15. In 2011, CS expanded from best stage to include:
   b. pretreatment and post-treatment.
   c. autopsy and retreatment.
   d. pre-treatment.

16. CS pretreatment stage is defined as:
   a. the information before systemic therapy only.
   b. the information before surgery only.
   c. the information before neoadjuvant therapy only.
   d. the information before any treatment.

17. CS post-treatment stage is defined as:
   a. the information after surgical resection.
   b. the information after systemic therapy.
   c. the information from the surgical resection after neoadjuvant treatment.
   d. the information after radiation therapy.
18. AJCC clinical classification is defined as:
   a. information before initiation of treatment or within 4 months of diagnosis, whichever is shorter.
   b. information before initiation of treatment or within 4 months of diagnosis, whichever is longer.
   c. information before neoadjuvant therapy only.
   d. information before surgical resection only.

19. AJCC pathologic classification is defined as:
   a. information after radiation therapy only.
   b. information after systemic therapy only.
   c. information through completion of definitive surgery or within 4 months of diagnosis, whichever is shorter.
   d. information through completion of definitive surgery or within 4 months of diagnosis, whichever is longer.

20. CS pretreatment and post-treatment staging is equivalent to which AJCC classifications?
   a. Clinical and pathologic
   b. Clinical and y pathologic
   c. y clinical and y pathologic
   d. y clinical and pathologic

21. Match the following AJCC staging classifications with the time frames.

   A. Clinical (c)
   B. Pathologic (p)
   C. y clinical (yc)
   D. y pathologic (yp)
   E. Retreatment (r)
   F. Autopsy (a)

   _____ Recurrence after a disease-free interval
   _____ After systemic/radiation therapy of neoadjuvant and before surgery
   _____ After completion of definitive surgery
   _____ Incidental finding on a postmortem examination
   _____ At time of diagnosis, before treatment
   _____ After neoadjuvant therapy including surgical resection
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   c. two or more different treatment procedures.
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    c. Tumor size
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    c. categories that rarely change.
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    a. From 6 to 25
    b. From 6 to 15
    c. From 4 to 25
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   c. autopsy and retreatment.
   d. pre-treatment.

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   b. the information before surgery only.
   c. the information before neoadjuvant therapy only.
   d. the information before any treatment.

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   a. the information after surgical resection.
   b. the information after systemic therapy.
   c. the information from the surgical resection after neoadjuvant treatment.
   d. the information after radiation therapy.

18. AJCC clinical classification is defined as:
   a. information before initiation of treatment or within 4 months of diagnosis, whichever is shorter.
   b. information before initiation of treatment or within 4 months of diagnosis, whichever is longer.
   c. information before neoadjuvant therapy only.
   d. information before surgical resection only.

19. AJCC pathologic classification is defined as:
   a. information after radiation therapy only.
   b. information after systemic therapy only.
   c. information through completion of definitive surgery or within 4 months of diagnosis, whichever is shorter.
   d. information through completion of definitive surgery or within 4 months of diagnosis, whichever is longer.
20. CS pretreatment and post-treatment staging is equivalent to which AJCC classifications?
   a. Clinical and pathologic
   b. Clinical and yp pathologic
   c. yp clinical and yp pathologic
   d. yp clinical and pathologic

21. Match the following AJCC staging classifications with the time frames.
   A. Clinical (c)
   B. Pathologic (p)
   C. yp clinical (yc)
   D. yp pathologic (yp)
   E. Retreatment (r)
   F. Autopsy (a)

   ___ E   Recurrence after a disease-free interval
   ___ C   After systemic/radiation therapy of neoadjuvant and before surgery
   ___ B   After completion of definitive surgery
   ___ F   Incidental finding on a postmortem examination
   ___ A   At time of diagnosis, before treatment
   ___ D   After neoadjuvant therapy including surgical resection
1. The goal of cancer treatment is to:
   a. provide information on methods used to treat patients.
   b. completely destroy all the cells in the primary tumor.
   c. either completely destroy or control the growth of neoplastic cells without significantly affecting the viability of host cells.
   d. test the various treatment modalities to determine which treatment is the most effective without significantly affecting the host.

2. The goal of palliative treatment for cancer patients is to:
   a. test treatments on patients with terminal disease.
   b. qualify for hospice care.
   c. alleviate symptoms to improve the quality of life symptoms.
   d. both b and c.

3. What are the three main categories of cancer treatment?
   a. Biopsy, surgery, systemic therapy
   b. Surgery, chemotherapy, radiation therapy
   c. Surgery, hormones, radiation therapy
   d. Cryosurgery, chemotherapy, brachytherapy

4. The acronym NOTES stands for:
   b. Natural Opening Transluminal Endoscopic Surgery.
   c. Natural Orifice Transluminal Endoscopic Surgery.
   d. Natural Orifice Transluminal Excisional Surgery.
5. Laser ablation is utilized for what types of malignancy?
   a. Superficial skin cancer
   b. Non–small-cell lung cancer
   c. Penile cancers
   d. All of the above
   e. None of the above

6. What type for surgery can be performed remotely?
   a. Radiofrequency ablation
   b. Laparoscopy
   c. Robotic
   d. Laminectomy

7. Radiofrequency ablation (RFA) involves the use of:
   a. cold.
   b. heat.
   c. lasers.
   d. microwaves.

8. Radiofrequency ablation (RFA) is most frequently used for the treatment of:
   a. liver cancers, both primary and metastatic.
   b. lung cancer.
   c. brain tumors.
   d. both a and b.
   e. both a and c.

9. A 76-year-old male patient with a history of metastatic prostate cancer treated with hormones has become hormone refractory. What is the next treatment he can be expected to receive?
   a. Colony-stimulating factors
   b. Alpha-Interferon
   c. Monoclonal antibodies
   d. Endocrine surgery

10. Which of the following describes the rationale behind the use of multiagent chemotherapy?
    a. Each agent acts on the cancer cell in a different phase of its DNA function.
    b. Two agents cost more than just one agent, thereby increasing facility profits.
    c. If one agent does not work, the other agent will.
    d. When multiple agents are used, they affect only malignant cells.
11. Which cancer vaccine is in most common use?
   a. Gleevec
   b. Gardasil
   c. Garda toxin
   d. MGV vaccine

12. What are the two types of monoclonal antibodies?
   a. Rituximab and trastuzumab
   b. Velcade and Rituxan
   c. Herceptin and Rituxan
   d. Both a and c
   e. None of the above

13. Monoclonal antibodies work by:
   a. acting on the DNA phase of a cancer cell.
   b. binding to specific antigens on cancer cells inducing an immunologic response.
   c. blocking the supply of blood to the tumor.
   d. all of the above.

14. A 44-year-old woman was recently diagnosed with infiltrating duct carcinoma, poorly differentiated, tumor size 2.1 cm with 3 of 15 positive axillary nodes. Her estrogen receptor was negative, as was her progesterone receptor; the Her-2/neu was 3+ positive by FISH. After surgery, what type of treatment would she be expected to receive?
   a. Chemotherapy, radiation therapy followed by tamoxifen
   b. Chemotherapy, radiation therapy followed by Arimidex
   c. Chemotherapy and radiation therapy
   d. Chemotherapy, Herceptin, and radiation therapy

15. What are the two most common types of antiandrogens used for prostate cancer?
   a. Estrogen and progesterone
   b. Prednisone and progesterone
   c. Flutamide and Casodex
   d. 5-Fluorouracil and prednisone

16. What is the name of the small molecule inhibitors used for gastrointestinal stromal tumors and chronic myelogenous leukemia?
   a. Glycogen
   b. Gardasil
   c. Glucosamine
   d. Gleevec
17. What are the two most commonly used adrenocorticoids?
   a. Progesterone and prednisone
   b. Prednisone and Decadron
   c. Decadron and Symbicort
   d. All of the above

18. The three types of bone marrow transplants are:
   a. autologous, allogeneic, and synthetic.
   b. autologous, allergic, and syngeneic.
   c. autologous, allogeneic, and syngeneic.
   d. none of the above.

19. Radiation therapy is useful in preventing what type of recurrence?
   a. Distant
   b. Regional
   c. Local
   d. Systemic

20. The most widely used type of radiation therapy is:
   a. orthovoltage.
   b. brachytherapy.
   c. seed implantation.
   d. external beam.

21. What is the difference between IMRT and IGRT?
   a. IMRT is radiation given in beamlets, and IGRT is image-guided treatment planning.
   b. IMRT is radiation given in beamlets, and IGRT is image-guided radiation therapy using images taken each day before treatment.
   c. IMRT is radiation given in beamlets, and IGRT is image-given radiation.
   d. IMRT is radiation given in multiple rads, and IGRT is image-guided treatment planning.

22. Define CyberKnife radiation therapy.
   a. CyberKnife is treatment given using a miniaturized photon linear accelerator.
   b. CyberKnife is treatment given using cobalt energy.
   c. CyberKnife is a type of specialized scalpel used during brain surgery.
   d. a and b
23. When is total body irradiation (TBI) used?
   a. Before laparoscopy for lymphomas
   b. Before kidney transplantation
   c. Before stem-cell transplant
   d. For patients with mycoses fungoides

24. Brachytherapy is:
   a. sealed radioactive sources placed in or near tumors.
   b. the use of heat to treat tumors.
   c. the use of intraperitoneal chemotherapeutic agents.
   d. all of the above.

25. A select group of breast cancer patients have been able to receive radiation directed to their tumor. What is the process that has been in use since 2002?
   a. IMRT
   b. IGRT
   c. MammoSite
   d. Mammographic port planning for radiation therapy

26. What is the most common radioisotope used, and what type of cancer is it used for?
   a. IMRT for thyroid
   b. IGRT for prostate
   c. I-131 for prostate
   d. I-131 for thyroid

27. What does the acronym CAM stand for?
   a. Chemotherapy and medical treatment
   b. Complementary and alternative medicine
   c. Cobalt and alternative medicine
   d. Chemotherapy and alternative medicine

28. The term multimodality refers to:
   a. combined forms of cancer-directed treatment.
   b. more than one cause of mortality.
   c. use of various imaging techniques for cancer case presentations.
   d. more than one type of radiation therapy given to the same patient.
29. The four types of CAM commonly used by cancer patients are:
   a. massage therapy, acupuncture, laetrile, and krebiozen.
   b. massage therapy, acupuncture, hyperbaric oxygen, chemotherapy with shark cartilage.
   c. massage therapy, acupuncture, hyperbaric oxygen, chemotherapy with mistletoe extract.
   d. both b and c.
   e. none of the above.

30. What type of support services is used for some colon cancer patients?
   a. Speech therapy by speech pathologist
   b. Ostomy support from enterostomal therapist
   c. Massage therapy
   d. Acupuncture

31. Cryosurgery is the use of:
   a. freezing targeted cancer tissues with the use of a cold probe.
   b. freezing targeted cancer tissues with the use of liquid nitrogen.
   c. freezing targeted cancer tissues with the use of argon gas.
   d. both a and b.
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   c. CyberKnife is a type of specialized scalpel used during brain surgery.
   d. a and b

23. When is total body irradiation (TBI) used?
   a. Before laparoscopy for lymphomas
   b. Before kidney transplantation
   c. Before stem-cell transplant
   d. For patients with mycoses fungoides

24. Brachytherapy is:
   a. sealed radioactive sources placed in or near tumors.
   b. the use of heat to treat tumors.
   c. the use of intraperitoneal chemotherapeutic agents.
   d. all of the above.

25. A select group of breast cancer patients have been able to receive radiation directed to their tumor. What is the process that has been in use since 2002?
   a. IMRT
   b. IGRT
   c. MammoSite
   d. Mammographic port planning for radiation therapy
26. What is the most common radioisotope used, and what type of cancer is it used for?
   a. IMRT for thyroid
   b. IGRT for prostate
   c. I-131 for prostate
   d. I-131 for thyroid

27. What does the acronym CAM stand for?
   a. Chemotherapy and medical treatment
   b. Complementary and alternative medicine
   c. Cobalt and alternative medicine
   d. Chemotherapy and alternative medicine

28. The term *multimodality* refers to:
   a. combined forms of cancer-directed treatment.
   b. more than one cause of mortality.
   c. use of various imaging techniques for cancer case presentations.
   d. more than one type of radiation therapy given to the same patient.

29. The four types of CAM commonly used by cancer patients are:
   a. massage therapy, acupuncture, laetrile, and krebiozen.
   b. massage therapy, acupuncture, hyperbaric oxygen, chemotherapy with shark cartilage.
   c. massage therapy, acupuncture, hyperbaric oxygen, chemotherapy with mistletoe extract.
   d. both b and c.
   e. none of the above.

30. What type of support services is used for some colon cancer patients?
   a. Speech therapy by speech pathologist
   b. Ostomy support from enterostomal therapist
   c. Massage therapy
   d. Acupuncture

31. Cryosurgery is the use of:
   a. freezing targeted cancer tissues with the use of a cold probe.
   b. freezing targeted cancer tissues with the use of liquid nitrogen.
   c. freezing targeted cancer tissues with the use of argon gas.
   d. both a and b.
   e. both b and c.
1. What are the two types of follow-up?
   a. Active and passive
   b. Active and inactive
   c. Passive and recurrent
   d. None of the above

2. What is the primary purpose of performing follow-up?
   a. To verify patient’s current address for billing purposes
   b. To assist physicians in diagnosing new cancer cases
   c. To ensure continued medical surveillance to evaluate success of therapy
   d. None of the above

3. Which of the following are considered “passive” follow-up linkage sources?
   a. Motor vehicle/driver license files
   b. Centers for Medicare and Medicaid Services
   c. Stage voter registration files
   d. All of the above
   e. None of the above

4. Follow-up information can be obtained only from the patient’s managing physician?
   a. True
   b. False
5. What is the required rate (percentage) for follow-up in programs approved by the Commission on Cancer of the American College of Surgeons for all eligible analytic patients diagnosed within the last 5 years or from the cancer registry reference date, whichever is shorter?
   a. 80%
   b. 90%
   c. 100%
   d. There is no percentage requirement

6. If the matching criteria are too loose, many “false” matches may result in the wrong patients being linked together.
   a. True
   b. False

7. What type of follow-up letter is necessary?
   a. Patient
   b. Physician
   c. Facility
   d. None of the above

8. When a follow-up letter is returned, what date do you use to update your database as the date of last contact?
   a. The date your registry mailed out the follow-up letter
   b. The date you received the letter back from the patient
   c. The date patient or representative signed and completed the letter
   d. None of the above

9. Follow-up can be done by checking the hospital records to determine whether the patient has been seen in the facility.
   a. True
   b. False

10. All of the following are core data items needed for successful follow-up except:
    a. insurance status.
    b. cancer status.
    c. date of last contact.
    d. none of the above.

11. Typographic errors in the patient’s Social Security number and/or date of birth increase the number of unlinked cases when performing database linkages?
    a. True
    b. False
12. If the matching criteria are set at “exact,” no matches will be missed.
   a. True
   b. False

13. The follow-up rate is calculated on which of the following group(s) of patients?
   a. Living
   b. Dead
   c. Both living and dead
   d. None of the above

14. Why is it necessary to put different verbiage on a patient letter versus a physician letter?
   a. So the registrar can tell the letters apart
   b. To allow letters to nonmedical contacts to be written in a language that is easily understood
   c. To allow registries to use letters to follow up on patients with other diseases
   d. None of the above

15. What are some of the factors that contribute to the costs of performing follow-up?
   a. Postage fees
   b. Staffing hours
   c. Both a and b
   d. There are no costs related to follow-up

16. The following are examples of active follow-up except:
   a. physician letters.
   b. Social Security Death Index.
   c. patient letters.
   d. all are examples of active follow-up.

17. Some registries perform passive follow-up on a routine basis by checking local newspaper obituaries?
   a. True
   b. False

18. The Commission on Cancer of the American College of Surgeons requires accredited cancer programs to meet which follow-up standard?
   a. Maintain an 80% follow-up rate for all eligible analytic patients from the cancer registry reference date
   b. 90% follow-up rate must be maintained for all eligible analytic patients diagnosed within the last 5 years, or from the cancer registry reference date, whichever is shorter
   c. Both a and b
   d. None of the above
19. If a patient has multiple primary cancers:
   a. all records will be updated with the date of last contact, but the cancer status will need to entered separately.
   b. all records are updated with the date of last contact, but record cancer status only if the patient still has evidence of disease.
   c. all records are updated with the date of last contact. The cancer status is not updated when performing patient follow-up.
   d. none of the above.

20. Confidentiality is extremely important when working with follow-up.
   a. True
   b. False

21. Registry staff can call the patient or his/her next of kin to discuss the patient’s current cancer status.
   a. True
   b. False
1. What are the two types of follow-up?
   a. Active and passive
   b. Active and inactive
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   a. True
   b. False

21. Registry staff can call the patient or his/her next of kin to discuss the patient’s current cancer status.
   a. True
   b. False
1. Linking data is the process of matching data from different sources based on identical or similar items from each source.
   a. True
   b. False

2. List two methods of matching.

3. Deterministic matching requires that records must have an exact match on key fields to be considered the same patient.
   a. True
   b. False

4. A probabilistic matching algorithm creates a match score based on the mathematical likelihood that identical or similar field values indicate a match.
   a. True
   b. False

5. Which matching method follows this rule: “A match cannot be made if one data file is missing a critical data field”?

6. The basic premise of the ______________ system is that the higher the score, the closer the match probability.

7. Which method is preferred?
8. Using the _____________ method, if a birth date is different by one day in a patient record in an incoming data file, the match to the patient record in the database can still be made.

9. Deterministic scores are usually divided into ranges indicating a match, a nonmatch, or an undetermined match.
   a. True
   b. False

10. Name four sources of electronic data files.

11. Record consolidation is the process of combining data from two or more records for the same patient and same tumor?
    a. True
    b. False

12. Failure to consolidate records can lead to overcounting or undercounting cancer incidence?
    a. True
    b. False

13. Record consolidation is the same as linkage.
    a. True
    b. False

14. Which of the following is a benefit to automation of the record consolidation process?
    a. Consistency in data collection
    b. Saves both money and time
    c. Does not allow one to monitor the effects of rule changes
    d. Both a and b

15. Record consolidation rules include:
    a. Hierarchy rules
    b. Most frequent
    c. Known over unknown
    d. All of the above

16. Determining the number of primary tumors is:
    a. Important if registry data are to be comparable
    b. Is the same in the United States and worldwide
    c. Neither a nor b
    d. Both a and b
17. An example of accuracy and specificity in coding primary site for upper lobe of lung is:
   a. C34.9
   b. C34.3
   c. C34.1
   d. C34.0

18. Text is not important for accurate record consolidation.
   a. True
   b. False

19. Cancer registries in North America use which set of rules for determining multiple primaries?
   a. IARC rules
   b. ACCC rules
   c. SEER Multiple Primary and Histology Coding Rules implemented January 1, 2007

20. When consolidating cases manually, the results of consolidation can be different based on the reviewer’s experience, caseload, and knowledge of special ascertainment or coding rules.
   a. True
   b. False
1. Linking data is the process of matching data from different sources based on identical or similar items from each source.
   a. True
   b. False

2. List two methods of matching.
   a. Deterministic
   b. Probabilistic

3. Deterministic matching requires that records must have an exact match on key fields to be considered the same patient.
   a. True
   b. False

4. A probabilistic matching algorithm creates a match score based on the mathematical likelihood that identical or similar field values indicate a match.
   a. True
   b. False

5. Which matching method follows this rule: “A match cannot be made if one data file is missing a critical data field”?
   Deterministic

6. The basic premise of the probabilistic system is that the higher the score, the closer the match probability.

7. Which method is preferred?
   Probabilistic

8. Using the probabilistic method, if a birth date is different by one day in a patient record in an incoming data file, the match to the patient record in the database can still be made.

9. Deterministic scores are usually divided into ranges indicating a match, a nonmatch, or an undetermined match.
   a. True
   b. False
10. Name four sources of electronic data files.
   a. Facility electronic health record
   b. Pathology laboratory
   c. Physician office/clinic including outpatient oncology
   d. Central registry

11. Record consolidation is the process of combining data from two or more records for the same patient and same tumor?
   a. True
   b. False

12. Failure to consolidate records can lead to overcounting or undercounting cancer incidence?
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   a. True
   b. False
study questions

1. What is the difference between quality control and quality assurance?

2. What are the four components of the Determinates of Quality?

3. What method of a designed study would be used to monitor data completeness?

4. What activity measures data consistency?

5. How do reliability and reabstracting studies differ?

6. Monitoring activities take place in data collection areas only.
   a. True
   b. False

7. Inter-record edit checks examine data items within a particular patient’s abstract.
   a. True
   b. False

8. The Pareto diagram helps identify areas that need attention by ranking them.
   a. True
   b. False
9. Computerized edit checks are one of the least cost-effective methods for assessing quality.
   a. True
   b. False

10. Quality of performance is the degree to which the final product/service will meet the needs of the consumer.
    a. True
    b. False

11. Death clearance only is an example of:
    a. accuracy.
    b. data consistency.
    c. data completeness.
    d. case incidence completeness.

12. An example of acceptance sampling is:
    a. reabstracting study.
    b. computer edit checks.
    c. edit rejection rates.
    d. lag time in reporting.

13. Which quality method is most costly?
    a. Independent case ascertainment
    b. Reliability study
    c. Reabstracting study
    d. CoC survey review

14. Historical data review involves:
    a. CoC survey review through acceptance sampling.
    b. physician review of abstracts through quality-control plan.
    c. comparison of number of cases expected with those observed.
    d. all of the above.

15. Unknown values:
    a. are monitored through process controls.
    b. can be legitimately utilized.
    c. should have stable rates over time.
    d. all of the above.

16. Statistical quality-control principles include _____________, _____________, and _____________.
17. The three categories of quality are ________________, ________________, and ________________.

18. ________________ audit provides verification that coding guidelines and rules are correct as applied by the data collectors.

19. ________________ assesses completeness using estimations from an independent survey of cases.

20. Three industrial quality-control methodologies are ________________, ________________, and ________________.

21. An effective data quality management program is dependent on timely, complete, and high-quality data.
   a. True
   b. False

22. An example of quality control of data accuracy is:
   a. an historical data review.
   b. monitoring DCO rate.
   c. recoding audit.
   d. benchmarking.

23. Quality control of data consists of:
   a. completeness.
   b. timeliness.
   c. accuracy.
   d. all of the above.

24. Timeliness is critical to a registry quality-control process. The methods for evaluating timeliness are (indicate all that are correct):
   a. visual review.
   b. reabstraction study.
   c. casefinding audit.
   d. lag-time report.

25. An abstract has an edit error that states the Surgery Summary of Scope of Regional Lymph Nodes (SurgSumScopeRegLN) field conflicts with the number of lymph nodes examined and number of lymph nodes positive. What kind of edit check is this?

26. A recoding audit will assess (indicate all that are correct):
   a. training needs.
   b. inadequate text documentation.
   c. application of coding rules.
   d. all of the above.
1. What is the difference between quality control and quality assurance?
   Quality control is a planned set of activities. Quality assurance is monitoring the processes and methods used to ensure quality.

2. What are the four components of the Determinates of Quality?
   Guidelines, performance measures, outcomes, and research and training

3. What method of a designed study would be used to monitor data completeness?
   Reabstraction study

4. What activity measures data consistency?
   Reliability study

5. How do reliability and reabstraction studies differ?
   A reliability study uses a set of standardized medical charts by a sample of data collectors. This study is reviewing the range of answers and checking on consistency of those answers. A reabstraction study assesses the quality of the collected data by having a staff member reabstract a sample of abstracts from the medical records. This study is assessing discrepancies identified by the reabtractor.

6. Monitoring activities take place in data collection areas only.
   a. True
   b. False
   Monitoring activities should take place in all aspects of the registry.

7. Inter-record edit checks examine data items within a particular patient’s abstract.
   a. True
   b. False
   Inter-record checks examine data items between related records. A patient may have more than one primary, and so on.

8. The Pareto diagram helps identify areas that need attention by ranking them.
   a. True
   b. False

9. Computerized edit checks are one of the least cost-effective methods for assessing quality.
   a. True
   b. False
   They are the most cost-effective.
10. Quality of performance is the degree to which the final product/service will meet the needs of the consumer.
   a. True
   b. False

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   d. all of the above.

15. Unknown values:
   a. are monitored through process controls.
   b. can be legitimately utilized.
   c. should have stable rates over time.
   d. all of the above.

16. Statistical quality-control principles include acceptance sampling, process control, and designed studies.

17. The three categories of quality are design, conformance, and performance.
18. **Recoding audit** provides verification that coding guidelines and rules are correct as applied by the data collectors.

19. **Independent case ascertainment** assesses completeness using estimations from an independent survey of cases.

20. Three industrial quality-control methodologies are **Total Quality Management**, **benchmarking**, and **Six Sigma**.

21. An effective data quality management program is dependent on timely, complete, and high-quality data.
   a. True
   b. False

22. An example of quality control of data accuracy is:
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25. An abstract has an edit error that states the Surgery Summary of Scope of Regional Lymph Nodes (SurgSumScopeRegLN) field conflicts with the number of lymph nodes examined and number of lymph nodes positive. What kind of edit check is this?
   **Interitem edit**

26. A recoding audit will assess (indicate all that are correct):
   a. training needs.
   b. inadequate text documentation.
   c. application of coding rules.
   d. all of the above.
study questions

1. What is SAR?

2. Which profession is not represented on the surveyor team?
   a. Facility administrators
   b. Surgeons
   c. Certified Cancer Registrars
   d. Medical Oncologists

3. Name two purposes of the survey?

4. Which of the following is not a use for the SAR?
   a. Design a cancer center
   b. Track program activities
   c. Customize the survey
   d. Report and analyze program activities across the country

5. How can a Commission on Cancer (CoC)–trained consultant assist a program?

6. The survey focuses on which of the following activities except:
   a. how the budget is spent.
   b. how clinical care is provided.
   c. assurance of the accuracy of data collection.
   d. how quality of care and patient outcomes are evaluated and improved.

7. What is the primary role of the program coordinators?
8. The minimum requirements for cancer program accreditation were first published in 1933.
   a. True
   b. False

9. All of the following are true of the surveyor team except that:
   a. surveyors are employees of the CoC.
   b. Certified Tumor Registrars are CoC surveyors.
   c. physicians from multiple specialties are CoC surveyors.
   d. the surveyor team has more than 40 members.

10. The survey process is the same for every facility.
    a. True
    b. False

11. Issues with program activity should be addressed after the survey.
    a. True
    b. False

12. All of the following are responsibilities of the key contact for survey except:
    a. leads the tour of the facility.
    b. ensures the accuracy of data recorded in the SAR.
    c. works with the surveyor and cancer committee to identify the best date for the survey.
    d. works with the surveyor to develop the survey agenda.

13. The CoC provides marketing information to local media for each CoC-accredited program.
    a. True
    b. False

14. All of the following are true of the Accredited Cancer Program Performance Report except that it:
    a. identifies the program as an Outstanding Achievement Award recipient.
    b. provides a summary of the program deficiencies.
    c. identifies the facility, surveyor, and date of the survey.
    d. provides the Accreditation Award.

15. An appeal of an Accreditation Award is appropriate:
    a. when the program had complied with the standard at the time of survey.
    b. any time after the survey has been completed.
    c. after the issues have been addressed by the program.
    d. when new documentation of program activity has been created.
1. What is SAR?
   Survey Application Record

2. Which profession is not represented on the surveyor team?
   a. Facility administrators
   b. Surgeons
   c. Certified Cancer Registrars
   d. Medical Oncologists

3. Name two purposes of the survey?
   a. Education
   b. Evaluation

4. Which of the following is not a use for the SAR?
   a. Design a cancer center
   b. Track program activities
   c. Customize the survey
   d. Report and analyze program activities across the country

5. How can a Commission on Cancer (CoC)–trained consultant assist a program?
   By guiding the cancer committee to understand their role

6. The survey focuses on which of the following activities except:
   a. how the budget is spent.
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   c. assurance of the accuracy of data collection.
   d. how quality of care and patient outcomes are evaluated and improved.

7. What is the primary role of the program coordinators?
   Ensure that the activity for a specified program area fulfills the requirements

8. The minimum requirements for cancer program accreditation were first published in 1933.
   a. True
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    c. after the issues have been addressed by the program.
    d. when new documentation of program activity has been created.
1. What primary purpose does the cancer registrar database serve?
   a. Research
   b. Quality management
   c. Marketing
   d. All of the above

2. What prerequisite class focuses on diseases in the human body?
   a. Introduction to Medicine
   b. Human Anatomy and Physiology
   c. Pathophysiology/Pharmacology
   d. Medical Terminology

3. What prerequisite class focuses on the definition of common medical terms and their relation to medical diseases and procedures?
   a. Pathophysiology/Pharmacology
   b. Medical Terminology
   c. Introduction to Medicine
   d. Human Anatomy and Physiology

4. What course focuses on the definition of cancer, how it develops, and its different types?
   a. Pathophysiology/Pharmacology
   b. Cancer Disease Coding and Staging
   c. Oncology Treatment and Coding
   d. Biology/Introduction to Medicine
5. If you wanted to learn about the approved methods in providing comparable data analysis, which core class would you take?
   a. Cancer Registry Structure and Management
   b. Oncology Treatment and Coding
   c. Cancer Registry Operations
   d. Cancer Disease Coding and Staging

6. What methods do the Oncology Treatment and Coding course focus on teaching?
   a. Data collection processes and cancer staging principles
   b. How treatment works to eliminate cancer
   c. Types and purposes of cancer registries
   d. Source documents for data

7. What is not a principle of an Abstracting Methods course?
   a. Statistics and epidemiology
   b. Identification of cases that are eligible for cancer registry database inclusion
   c. Methods of documenting clinical information into data fields
   d. Independent practice on cancer registry data elements

8. What is necessary for CTRs to maintain their certification?
   a. Complete 12 hours of CE credits
   b. Complete the required CE credits every 2 years
   c. Complete 20 hours of CE credits
   d. b and c
   e. a and b

9. What does not count as an approved activity for Continuing Education (CE)?
   a. Active participation in professional organizations
   b. Formal presentation of non-original work to cancer registry field or audience
   c. Attending cancer conferences
   d. Taking journal quizzes and/or completing case scenarios

10. What is the definition of an asynchronous learning environment?
    a. In-person learning environment that involves "real-time" live interaction
    b. Online learning environment that does not involve a coordinated live interaction
    c. In-person learning environment in which the lesson is pre-recorded
    d. None of the above

11. What is the Program Recognition Committee’s role in developing education?
    a. Reviews educational activities for knowledge and expertise assurance
    b. Facilitates communication and outreach to Accredited Formal Education programs
    c. Reviews and determines program’s criteria for Continuing Education credits
    d. Develops educational opportunities that can be accomplished as an individual
12. Which committee is not represented by the Board Director of Education?
   a. Alternative Methods Committee
   b. Continuing Education Committee
   c. Education Committee
   d. Formal Education Committee

13. What committee is represented by the Professional Development Board Director?
   a. Formal Education Program Review Committee
   b. Education Committee
   c. CTR Exam Prep Committee
   d. Alternative Methods Committee

14. What is the Education Committee responsible for?
   a. Accrediting formal education programs for cancer registrars
   b. Overseeing the development and delivery of basic and advanced educational opportunities
   c. Reviewing educational activities in which cancer registrars participate
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   d. None of the above
1. What primary purpose does the cancer registrar database serve?
   a. Research
   b. Quality management
   c. Marketing
   d. All of the above

2. What prerequisite class focuses on diseases in the human body?
   a. Introduction to Medicine
   b. Human Anatomy and Physiology
   c. Pathophysiology/Pharmacology
   d. Medical Terminology

3. What prerequisite class focuses on the definition of common medical terms and their relation to medical diseases and procedures?
   a. Pathophysiology/Pharmacology
   b. Medical Terminology
   c. Introduction to Medicine
   d. Human Anatomy and Physiology

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study questions

1. Give some examples of differences between prospective and retrospective case presentations.

2. Is there a role for each case presentation approach in Question 1 in cancer conferences?

3. Do only Commission on Cancer (CoC)–approved facilities hold cancer conferences?

4. Who is ultimately responsible for the developing of a cancer conference plan in a CoC–approved facility?

5. Do all categories of program approval have the same CoC cancer conference requirements?

6. Name three of the determining factors for setting the frequency and format of a cancer conference?

7. Name three of the formats used for cancer conferences.

8. What are two benefits of creating a presenter format for case presentation at a cancer conference?

9. Name two challenges to physician attendance at cancer conferences.

10. Will commercial support change the format for cancer conferences?
11. Should review of the cases seen within your facility by primary site be completed when selecting cases for presentation at cancer conferences?

12. Identify three sources for use in selecting cases for presentation at cancer conferences.

13. Name three services that a cancer conference coordinator provides?

14. Are notes of cancer conference discussion always discoverable during legal proceedings?

15. Is using national treatment guidelines required by the Commission on Cancer for a cancer conference in an approved facility?
1. Give some examples of differences between prospective and retrospective case presentations.

Prospective cases are presented for discussion at the time of initial diagnosis with an emphasis on establishing accurate staging (clinical or pathologic), treatment options based on national treatment guidelines, and expected patient management plans. Prospective conferences may also include discussion of adjuvant therapy after the initial surgical treatment or treatment plans for a recurrence. The prospective approach is in essence a look forward, as opposed to the retrospective approach. Retrospective cases are discussed after the completion of all treatment, primarily for the purpose of education, and are not intended to influence the management of patient care.

2. Is there a role for each case presentation approach in Question 1 in cancer conferences?

Yes, institutions can benefit from both prospective and retrospective case discussions based on the established goals for each cancer conference (see format).

3. Do only Commission on Cancer (CoC)–approved facilities hold cancer conferences?

No, consultative meetings similar to cancer conferences occur in facilities not approved by the CoC and further support the effectiveness of this type of discussion. In addition, many physicians view cancer conference as the equivalent to a second opinion and communicate the case presentation discussion to their patients.

4. Who is ultimately responsible for the developing of a cancer conference plan in a CoC–approved facility?

If the facility is approved by the CoC, the Cancer Committee is responsible. If the facility is not CoC approved, the facility should assign the responsibility to the individuals.

5. Do all categories of program approval have the same CoC cancer conference requirements?

No, the CoC standards for Approved Programs should be reviewed for category requirements.

6. Name three of the determining factors for setting the frequency and format of a cancer conference?

You may have named any three of the following:

a. Program category
b. Number of annual analytic accessions
c. Types of cases seen by the facility
d. Need for consultative services
e. Need for educational activities

(Requirements for the frequency and format of cancer conference are detailed in CoC Standard 2.6 [revised, 2009].)
7. Name three of the formats used for cancer conferences.
   You may have named any three of the following:
   a. Departmental
   b. Facility wide
   c. Network wide
   d. Site focused
   e. Academic/teaching
   f. Community wide

8. What are two benefits of creating a presenter format for case presentation at a cancer conference?
   You may have named any two of the following:
   a. Facilitate the discussions
   b. Adhere to the requirements of the CoC
   c. Provide useful information for registrar use

9. Name two challenges to physician attendance at cancer conferences.
   You may have named any two of the following:
   a. Conflicting schedules for day or time
   b. Ease of meeting room access
   c. Administrative requirements or restrictions

10. Will commercial support change the format for cancer conferences?
    No, the format should include the “disclosures” and “transparency” documents if CE’s are provided.

11. Should review of the cases seen within your facility by primary site be completed when selecting cases for presentation at cancer conferences?
    Yes, if the facility is CoC approved, case presentations are required based on the major sites within the facility.

12. Identify three sources for use in selecting cases for presentation at cancer conferences.
    You may have named any three of the following:
    a. Physician presenters will personally select the cases for discussion
    b. Evaluation of current in-house admissions with a diagnosis of cancer
    c. Evaluation of weekly pathology cases with a cancer-related diagnosis
    d. Cancer Registry involvement through disease index listings or other casefinding mechanisms.
13. Name three services that a cancer conference coordinator provides?
   You may have named any three of the following:
   a. Case selection
   b. Facilitating cancer conference discussions
   c. Reviewing CoC requirements
   d. Providing recommendations for improvement of cancer conference

14. Are notes of cancer conference discussion always discoverable during legal proceedings?
   No, it depends on the state’s laws.

15. Is using national treatment guidelines required by the Commission on Cancer for a cancer conference in an approved facility?
   Yes
1. Of the report-writing tasks listed below, which step should be taken first?
   a. Identify the patients and data items on which the report will be based.
   b. Define the type of information that will be included in the report.
   c. Decide whether to use tables or graphs.
   d. Determine how the recipient will use the report and their level of expertise.

2. Which of these is a step that must be taken to define the data used in a report?
   a. Define the types of statistics to be shown.
   b. Confirm the specific codes used to define variables such as site, morphology, and stage.
   c. Determine the method of distribution.
   d. Obtain approval for data usage.

3. What choices exist if the data requested are not routinely collected by the registry?

4. Describe one method of creating complex logic for a report.

5. Tables and graphs should be used because:
   a. they are easy to create.
   b. data are easier to understand when presented in a table or graph.
   c. they require less written documentation.
6. The more color on the report, the better.
   a. True
   b. False

7. What is assistive technology?
   a. Software that helps you create documents that can be easily read by people with disabilities
   b. Computer programs for creating graphs and generating statistics
   c. Computer programs and devices that people with disabilities commonly use to access electronic information

8. When is it appropriate to show data in a table rather than a graph?
   a. When showing trends in data over time
   b. When comparing percentages of three or four values
   c. When comparing exact values among several variables

9. Which of the following is a method for protecting confidential data?
   a. Suppression of table cells that have low counts
   b. Sending password-protected data files using a secure method with the password
   c. Accurate statistical analysis of registry data
   d. Avoiding electronic distribution of data

10. Which is the best method for showing trends in cancer over time?
    a. Bar chart
    b. Line graph
    c. Histogram
    d. Pie chart
1. Of the report-writing tasks listed below, which step should be taken first?
   a. Identify the patients and data items on which the report will be based.
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   b. Confirm the specific codes used to define variables such as site, morphology, and stage.
   c. Determine the method of distribution.
   d. Obtain approval for data usage.

3. What choices exist if the data requested are not routinely collected by the registry?
   You may have named any of the following:
   a. Restructure the request to use routine data.
   b. Deny the request if data cannot be obtained for legal or practical reasons.
   c. Perform a special study to collect the desired information.

4. Describe one method of creating complex logic for a report.
   Start with a simpler version of the request that can be easily verified and add complexity.

5. Tables and graphs should be used because:
   a. they are easy to create.
   b. data are easier to understand when presented in a table or graph.
   c. they require less written documentation.
   Tables and graphs are easier to understand and are appealing to the audience. They provide a quick mental picture of data that would be cumbersome to present in narrative form.

6. The more color on the report, the better.
   a. True
   b. False
   Too many colors can be overwhelming and hard to distinguish. Poor color choice can also diminish the benefits of using color.
7. What is assistive technology?
   a. Software that helps you create documents that can be easily read by people with disabilities
   b. Computer programs for creating graphs and generating statistics
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    a. Bar chart
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    c. Histogram
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study questions

1. What is a function of a central registry?
   a. To perform as a data repository for a state
   b. Monitor cancer incidence trends and mortality
   c. Evaluate cancer-control initiatives
   d. All of the above

2. What type of information that is collected by a central registry is available for public access?
   a. Patient demographics
   b. Incidence of cancer
   c. Physician information
   d. Hospital information

3. No facility-specific patient information can be released unless authorized under law.
   a. True
   b. False

4. Casefinding is a system utilized to identify all eligible reporting cases.
   a. True
   b. False

5. Name facility sources used to identify cases.
6. Each city has created rules and guidelines for cancer data collection.
   a. True
   b. False

7. Which organizations have established guidelines and standards for cancer reporting?
   a. CBS, NPCR, BOA, NCI
   b. NCI, SEER, NPCR, NAACCR, ACoS
   c. GMAC, ABC, ACS
   d. None of the above
   e. All of the above

8. NAACCR standard metafiles are crucial to central registry reporting.
   a. True
   b. False

9. Assessing edits on a regular basis increases the time to review cases before submission.
   a. True
   b. False

10. List steps to prepare a central registry file.

11. What is the NCDB?
    a. A statewide facility-based oncology data set
    b. A nationwide, facility-based oncology data set
    c. A regional facility based oncology data set
    d. None of the above

12. Which CoC Standard is defined as complete data for all analytic cases submitted to the NCDB in accordance with the annual Call for Data?
    a. 2.8
    b. 7.1
    c. 3.6
    d. 4.1

13. Rejected cases meet the specified data quality criteria in CoC Standard 3.7.
    a. True
    b. False

14. Submission of Class of Case 6 is required.
    a. True
    b. False
15. What is the backbone of the NCDB metafile?
   a. NAACCR standard edits
   b. FORDS standard edits
   c. SEER standard edits
   d. None of the above

16. In addition to running the NCDB metafile, what other practice is beneficial to perform before NCDB file submission?

17. Which types of cancer are evaluated by the clinical checks?
   a. Genitourinary system cancer
   b. Breast and colorectal cancer
   c. Lymphoid neoplasms and hematopoietic diseases
   d. Colorectal and malignant and benign brain tumors

18. What are the six measures evaluated by the clinical checks?

19. Complete recording of all physician staging, delayed treatment, follow-up information, and other data pertinent to the cases being submitted to NCDB should be collected.
   a. True
   b. False

20. Documentation of all submissions to both the central registry and the NCDB should be maintained on file in the cancer registry.
   a. True
   b. False
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5. Name facility sources used to identify cases.
   Disease indices, pathology and laboratory reports, patient logs, and other similar resources

6. Each city has created rules and guidelines for cancer data collection.
   a. True
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8. NAACCR standard metafiles are crucial to central registry reporting.
   a. True
   b. False
9. Assessing edits on a regular basis increases the time to review cases before submission.
   a. True
   b. False

10. List steps to prepare a central registry file.
   a. Contact the cancer registry software provider for updates and assistance, if necessary, to enable submission of data to the central registry.
   b. Review the central registry submission guidelines.
   c. Verify that the most current metafile is activated in the cancer registry software.
   d. Complete recording of all physician staging, treatment information and other data pertinent to the cases being submitted.
   e. Identify the population of cases in the hospital cancer registry database that are ready to be submitted to the central registry.
   f. Once the population of cases is selected, ensure the standard NAACCR metafile as well as any other additional state metafile has been performed on the population.
   g. Make adjustments to cases as needed, and re-run the selected population and metafiles until no edits remain.
   h. Depending on the type of cancer registry software, the date of submission and transmit code may be noted on the cases. Refer to the cancer registry software provider for details.
   i. Create a file and save in the designated hard drive.
   j. As most central registries provide on-line submission of data, the file created can be uploaded through the central registries web portal. Please refer to central registry manual and/or contact central registry representative for details.
   k. Document the file submission to the central registry.

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17. Which types of cancer are evaluated by the clinical checks?
   a. Genitourinary system cancer
   b. Breast and colorectal cancer
   c. Lymphoid neoplasms and hematopoietic diseases
   d. Colorectal and malignant and benign brain tumors

18. What are the six measures evaluated by the clinical checks?
   a. Patients undergoing breast-conserving surgery and who are younger than 70 should be considered for or receive radiation therapy.
   b. Patients with Stage I (tumor size > 1 cm and N0) and Stage II/III (any tumor size and N+ with ER- and PR- breast tumors should be considered for or receive combination chemotherapy.
   c. Patients with Stage I (tumor size > 1 cm and N0) and Stage II/III (any tumor size and N+), ER+ or PR+ breast tumors should be considered for or receive hormonal therapy (tamoxifen or a third-generation aromatase inhibitor).
   d. Patients who undergo surgical resection for primary tumors of the colon should have at least 12 regional lymph nodes pathologically examined.
   e. Patients who undergo surgical resection for Stage III (lymph node–positive) colon cancer should be considered for or receive adjuvant chemotherapy.
   f. Patients with Stage II or III (T3/T4 and N0, or any T and N1) rectal cancer should be considered for or receive either preoperative or postoperative radiation therapy.

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   a. True
   b. False

20. Documentation of all submissions to both the central registry and the NCDB should be maintained on file in the cancer registry.
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For these questions, consider the following scenario: You are working with a researcher investigating whether taller men are at greater risk for prostate cancer than shorter men. To address this hypothesis, the researcher selected a sample of men from her state cancer registry who lived in a certain neighborhood and were diagnosed with prostate cancer in 2009. She then randomly selected men from the same neighborhood as the cases who had never been diagnosed with prostate cancer (the controls). She collected information on the age at diagnosis (or an assigned reference date for the controls), race, and height at age 18 for the cases and controls (shown in Table 24-1).

1. State the null and alternative hypotheses being tested.

2. Summarize this data set for the researcher; specifically, provide the following information:
   a. The percentage of cases and control subjects in each race category
   b. The percentage of cases and control subjects in the age at diagnosis categories ≤75, 76 to 80, or >80
   c. The percentage of cases and control subjects in the height categories <1.75 or ≥1.75
   d. The mean, median, mode, and range of the age at diagnosis and height for cases and control subjects

3. Below is a histogram of the heights at age 18 among the controls. Is the distribution of heights closest to a normal, skewed, or bimodal distribution?
4. What is the study design used here?
   a. Cohort study
   b. Randomized, controlled trial
   c. Case–control study
   d. Cross-sectional study

5. What is the odds ratio? (Use prostate cancer as the outcome and being tall (≥1.75) as the exposure.)

6. The p value for the odds ratio is $p = 0.61$; therefore, there is a statistical association between height and prostate cancer risk.
   a. True
   b. False

7. If there are differences in the distribution of height by age and race, and age and race are associated with the risk for prostate cancer, then age and race could potentially confound the association between height and prostate cancer risk.
   a. True
   b. False
8. If we wanted to adjust for differences in age category and race in the statistical analysis, what statistical test might we use?
   a. t test
   b. ANOVA
   c. Litmus test
   d. Logistic regression

9. Write a brief summary of prostate cancer epidemiology for this study based on information from the SEER Web site (http://seer.cancer.gov/statfacts/), including in the following information:
   a. The median age at diagnosis for prostate cancer among U.S. men
   b. The prevalence of prostate cancer in the United States
   c. The incidence rates and mortality rates of prostate cancer by race in the United States
For these questions, consider the following scenario: You are working with a researcher investigating whether taller men are at greater risk for prostate cancer than shorter men. To address this hypothesis, the researcher selected a sample of men from her state cancer registry who lived in a certain neighborhood and were diagnosed with prostate cancer in 2009. She then randomly selected men from the same neighborhood as the cases who had never been diagnosed with prostate cancer (the controls). She collected information on the age at diagnosis (or an assigned reference date for the controls), race, and height at age 18 for the cases and controls (shown in Table 24-1).

1. State the null and alternative hypotheses being tested.

   The null hypothesis being tested is that there is no difference in prostate cancer risk between taller and shorter men. The alternative hypothesis is that there is a difference in prostate cancer risk between taller and shorter men, or more specifically, that taller men are at greater risk for prostate cancer than shorter men.

2. Summarize this data set for the researcher; specifically, provide the following information:
   a. The percentage of cases and controls in each race category
   b. The percentage of cases and controls in the age at diagnosis categories ≤75, 76 to 80, or >80
   c. The percentage of cases and controls in the height categories <1.75 or ≥1.75
   d. The mean, median, mode, and range of the age at diagnosis and height for cases and controls

   Below is the summary for this data set. These values can be calculated by hand. Those shown below were calculated in Microsoft Excel using the commands: COUNTIF, AVERAGE, MEDIAN, MODE, MAX, and MIN.

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<td></td>
<td>77.5</td>
<td></td>
</tr>
<tr>
<td>Mode</td>
<td>81.0</td>
<td></td>
<td>79.0</td>
<td></td>
</tr>
</tbody>
</table>
3. Below is a histogram of the heights at age 18 among the control subjects. Is the distribution of heights closest to a normal, skewed, or bimodal distribution?

<table>
<thead>
<tr>
<th></th>
<th>Cases</th>
<th></th>
<th>Control Subjects</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>n</td>
<td>%</td>
</tr>
<tr>
<td>Range</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maximum</td>
<td>88.0</td>
<td></td>
<td>89.0</td>
<td></td>
</tr>
<tr>
<td>Minimum</td>
<td>61.0</td>
<td></td>
<td>65.0</td>
<td></td>
</tr>
<tr>
<td>Height at age 18</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;1.75</td>
<td>3</td>
<td>38%</td>
<td>5</td>
<td>63%</td>
</tr>
<tr>
<td>≥1.75</td>
<td>5</td>
<td>63%</td>
<td>3</td>
<td>38%</td>
</tr>
<tr>
<td>Mean</td>
<td>1.8</td>
<td></td>
<td>1.7</td>
<td></td>
</tr>
<tr>
<td>Median</td>
<td>1.8</td>
<td></td>
<td>1.7</td>
<td></td>
</tr>
<tr>
<td>Mode</td>
<td>1.7</td>
<td></td>
<td>1.6</td>
<td></td>
</tr>
<tr>
<td>Range</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maximum</td>
<td>2.1</td>
<td></td>
<td>2.0</td>
<td></td>
</tr>
<tr>
<td>Minimum</td>
<td>1.7</td>
<td></td>
<td>1.6</td>
<td></td>
</tr>
</tbody>
</table>

The heights of the control subjects appear to be slightly skewed to the right. However, the sample size is too small to describe the distribution of the underlying population with confidence.

4. What is the study design used here?
   a. Cohort study
   b. Randomized, controlled trial
   c. Case–control study
   d. Cross-sectional study

5. What is the odds ratio? (Use prostate cancer as the outcome and being tall [≥1.75] as the exposure.)

   The odds ratio = \( \frac{a \times d}{b \times c} = \frac{3 \times 3}{5 \times 5} = 2.78 \)

<table>
<thead>
<tr>
<th></th>
<th>Cases</th>
<th></th>
<th>Control Subjects</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Height at age 18</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>≥1.75</td>
<td>5</td>
<td></td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>&lt;1.75</td>
<td>3</td>
<td></td>
<td>5</td>
<td></td>
</tr>
</tbody>
</table>
6. The p value for the odds ratio is \( p = 0.61 \); therefore, there is a statistical association between height and prostate cancer risk.
   a. True
   b. False

   The p value is greater than 0.05, so there was not a statistical association between height and prostate cancer risk in this data set. Therefore, we cannot reject the null hypothesis.

7. If there are differences in the distribution of height by age and race, and age and race are associated with the risk for prostate cancer, then age and race could potentially confound the association between height and prostate cancer risk.
   a. True
   b. False

   To be a potential confounder, the factor (in this case, age and race) must be associated with both the exposure (height) and the outcome (prostate cancer risk).

8. If we wanted to adjust for differences in age category and race in the statistical analysis, what statistical test might we use?
   a. \( t \) test
   b. ANOVA
   c. Litmus test
   d. Logistic regression

9. Write a brief summary of prostate cancer epidemiology for this study based on information from the SEER Web site (http://seer.cancer.gov/statfacts/), including in the following information:
   a. The median age at diagnosis for prostate cancer among U.S. men
   b. The prevalence of prostate cancer in the United States
   c. The incidence rates and mortality rates of prostate cancer by race in the United States
The following quotes and tables could be used in your summary of prostate cancer epidemiology (from the SEER Stat Facts Sheet: Prostate [http://seer.cancer.gov/statfacts/html/prost.html; accessed May 2010]):

a. “From 2003–2007, the median age at diagnosis for cancer of the prostate was 67 years of age.”

b. “On January 1, 2007, in the United States there were approximately 2,276,112 men alive who had a history of cancer of the prostate.”

c.

### Incidence Rates by Race

<table>
<thead>
<tr>
<th>Race/Ethnicity</th>
<th>Male</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Races</td>
<td>156.9 per 100,000 men</td>
</tr>
<tr>
<td>White</td>
<td>150.4 per 100,000 men</td>
</tr>
<tr>
<td>Black</td>
<td>234.6 per 100,000 men</td>
</tr>
<tr>
<td>Asian/Pacific Islander</td>
<td>90.0 per 100,000 men</td>
</tr>
<tr>
<td>American Indian/Alaska Native</td>
<td>77.7 per 100,000 men</td>
</tr>
<tr>
<td>Hispanic</td>
<td>125.8 per 100,000 men</td>
</tr>
</tbody>
</table>

### Death Rates by Race

<table>
<thead>
<tr>
<th>Race/Ethnicity</th>
<th>Male</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Races</td>
<td>25.6 per 100,000 men</td>
</tr>
<tr>
<td>White</td>
<td>23.6 per 100,000 men</td>
</tr>
<tr>
<td>Black</td>
<td>56.3 per 100,000 men</td>
</tr>
<tr>
<td>Asian/Pacific Islander</td>
<td>10.6 per 100,000 men</td>
</tr>
<tr>
<td>American Indian/Alaska Native</td>
<td>20.0 per 100,000 men</td>
</tr>
<tr>
<td>Hispanic</td>
<td>19.6 per 100,000 men</td>
</tr>
</tbody>
</table>

Death rates were not available at the time accessed, so this table is from the previous Surveillance, Epidemiology, and End Results (SEER) release.

---

Table 24-1  Sample Data of Height for Men with and without Prostate Cancer

<table>
<thead>
<tr>
<th>Case No.</th>
<th>Case Status</th>
<th>Race</th>
<th>Age at Diagnosis or Reference Date for Control Subjects (years)</th>
<th>Height at Age 18 (meters)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Case</td>
<td>W</td>
<td>78</td>
<td>1.76</td>
</tr>
<tr>
<td>2</td>
<td>Case</td>
<td>B</td>
<td>61</td>
<td>1.70</td>
</tr>
<tr>
<td>3</td>
<td>Case</td>
<td>O</td>
<td>81</td>
<td>1.85</td>
</tr>
<tr>
<td>4</td>
<td>Case</td>
<td>B</td>
<td>67</td>
<td>1.80</td>
</tr>
<tr>
<td>5</td>
<td>Case</td>
<td>W</td>
<td>88</td>
<td>1.95</td>
</tr>
<tr>
<td>6</td>
<td>Case</td>
<td>W</td>
<td>77</td>
<td>1.69</td>
</tr>
<tr>
<td>7</td>
<td>Case</td>
<td>W</td>
<td>72</td>
<td>1.69</td>
</tr>
<tr>
<td>8</td>
<td>Case</td>
<td>B</td>
<td>81</td>
<td>2.10</td>
</tr>
<tr>
<td>9</td>
<td>Control</td>
<td>W</td>
<td>82</td>
<td>1.57</td>
</tr>
<tr>
<td>10</td>
<td>Control</td>
<td>B</td>
<td>65</td>
<td>1.60</td>
</tr>
<tr>
<td>11</td>
<td>Control</td>
<td>W</td>
<td>79</td>
<td>1.60</td>
</tr>
<tr>
<td>12</td>
<td>Control</td>
<td>W</td>
<td>79</td>
<td>1.71</td>
</tr>
<tr>
<td>13</td>
<td>Control</td>
<td>W</td>
<td>66</td>
<td>1.74</td>
</tr>
<tr>
<td>14</td>
<td>Control</td>
<td>B</td>
<td>73</td>
<td>1.84</td>
</tr>
<tr>
<td>15</td>
<td>Control</td>
<td>W</td>
<td>89</td>
<td>1.91</td>
</tr>
<tr>
<td>16</td>
<td>Control</td>
<td>O</td>
<td>76</td>
<td>2.00</td>
</tr>
</tbody>
</table>

These data are contrived.

B, black; O, other; W, white.
1. Survival measures are often expressed as the _______________ of patients alive at some point subsequent to the diagnosis of their cancer, or represented as the _______________ of a group of patients “surviving” a specified amount of time (e.g., 3, 5, or 20 years).

2. Survival can be measured in various ways. The choice of measurement depends on the research question or _______________.

3. An event of interest is the outcome being measured; it may be _______________ or death related to a _______________ under study.

4. Choose one or multiple options below that may lead to a censored event.
   a. When a patient is no longer followed, that is, loss to follow-up
   b. When a patient dies of a cause that is not the event of interest
   c. When a patient dies of a cause that is the event of interest
   d. When a patient dies from a car accident

5. Censored patients only contribute to the analysis up to the time they are censored.
   a. True
   b. False

6. There are two standard measures of survival known: _______________ and _______________.

7. Observed survival is an estimate of the probability of surviving _______________.

study questions
8. Which of the following survival measures is called the “hypothetical probability” of survival of cancer in the absence of other causes of death?
   a. Observed all cause-survival
   b. Relative survival
   c. Cause-specific survival
   d. All of the above
   e. b and c only

9. Two approaches for net survival can be estimated by __________ survival and __________ survival.

10. Consider the following figure.

Possible Outcomes after Cancer Diagnosis

10.1. If you are calculating observed survival, which patients are going to contribute events in survival estimation?
   a. Patients 1 and 2 are contributing events.
   b. Patients 3 and 4 are contributing events.
   c. Patients 1 and 3 are contributing events.
   d. Patients 2 and 4 are contributing events.

10.2. If you are calculating observed survival, which patients are going to be censored in survival estimation?
   a. Patients 1 and 2 are censored.
   b. Patients 3 and 4 are censored.
   c. Patients 1 and 3 are censored.
   d. Patients 2 and 4 are censored.
10.3. If you are calculating net survival, which patients are going to contribute events in survival estimation?
   a. Patient 1 is contributing event.
   b. Patients 3 and 4 are contributing events.
   c. Patients 1 and 3 are contributing events.
   d. Patients 2 and 4 are contributing events.

10.4. If you are calculating net survival, which patients are going to be censored in survival estimation?
   a. Patients 2, 3, and 4 are censored.
   b. Patients 3 and 4 are censored.
   c. Patients 1 and 3 are censored.
   d. Patients 2 and 4 are censored.

11. If reliable cause of death information is available, then we can use which of the following survival measures?
   a. Observed all cause
   b. Cause-specific survival
   c. Relative survival

12. Which survival measure requires expected rate from general population matched on age, sex, race, and so on?
   a. Observed all cause
   b. Cause-specific survival
   c. Relative survival

13. The following table presents different scenarios for survival analysis. Fill in the “Then” column with the most appropriate survival measure that can address each scenario.

<table>
<thead>
<tr>
<th>IF GOAL</th>
<th>THEN</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Describe the observed mortality patterns in the cohort of patients</td>
<td></td>
</tr>
<tr>
<td>2 Measure the excess mortality associated with a cancer diagnosis</td>
<td></td>
</tr>
<tr>
<td>3 Have reliable cause of death information (e.g., clinical trials)</td>
<td></td>
</tr>
<tr>
<td>4 Unreliable information on cause of death but has accurate expected</td>
<td></td>
</tr>
<tr>
<td>other cause mortality from general population for the cohort</td>
<td></td>
</tr>
</tbody>
</table>
1. Survival measures are often expressed as the proportion of patients alive at some point subsequent to the diagnosis of their cancer, or represented as the probability of a group of patients “surviving” a specified amount of time (e.g., 3, 5, or 20 years).

2. Survival can be measured in various ways. The choice of measurement depends on the research question or event of interest.

3. An event of interest is the outcome being measured; it may be death due to any cause or death related to a specific cause of interest such as the cancer under study.

4. Choose one or multiple options below that may lead to a censored event.
   a. When a patient is no longer followed, that is, loss to follow-up
   b. When a patient dies of a cause that is not the event of interest
   c. When a patient dies of a cause that is the event of interest
   d. When a patient dies from a car accident

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6. There are two standard measures of survival known: observed survival and net survival.

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<td>4</td>
<td>Unreliable information on cause of death but has accurate expected other cause mortality from general population for the cohort</td>
</tr>
</tbody>
</table>
1. Clinical Practice Guidelines (CPG) are the same as clinical treatment protocols.
   a. True
   b. False

2. American Society of Clinical Oncology’s (ASCO’s) Quality Oncology Practice Initiative (QOPI®) includes use of Cancer Registry Data for hematology/oncology practices.
   a. True
   b. False

3. CPG are nationally standardized recommendations for health care developed by a formal process.
   a. True
   b. False

4. The first step in assessing quality of care is establishing what aspects of care are connected to optimal outcomes.
   a. True
   b. False

5. A standardized set of performance measures guarantees deficiencies in health care will not occur.
   a. True
   b. False
6. National Cancer Institute (NCI) has set a priority of quality of cancer care by identifying, developing, applying, and evaluating quality-of-care measures.
   a. True
   b. False

7. CPG are effective in translating research into clinical practice.
   a. True
   b. False

8. ASCO guidelines are focused on:
   a. several questions around many topics.
   b. Cancer Registry data.
   c. a single question or group of questions around an important topic in specific areas of cancer.

9. The most comprehensive, most frequently updated and used guidelines available in any area of medicine are:
   a. ACOS guidelines.
   b. NCCN guidelines.
   c. ASCO guidelines.

10. A performance measure:
    a. is a set of technical specifics that define how to calculate a rate for a specific indicator of quality.
    b. uses the measures to determine whatever rate it is and how it compares.
    c. gathers and provides treatment information for consumers and healthcare professionals.
    d. a and b

11. Cancer Registries can provide measurement data to assess how CPG’s are being followed or to monitor other aspects of care by:
    a. real-time reporting.
    b. reporting cases in 3 to 6 months after diagnosis.
    c. none of the above.

12. Performance measurement data for comparison with other accredited Commission on Cancer (CoC) facilities is provided by:
    a. the Joint Commission.
    b. the National Cancer Data Base (NCDB).
    c. Surveillance, Epidemiology, and End Results (SEER).
    d. American Society of Clinical Oncology (ASCO).

13. The Commission on Cancer’s ______________ provides feedback to the CoC-accredited cancer programs on their performance to cancer quality measures.
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    a. the Joint Commission.
    b. the National Cancer Data Base (NCDB).
    c. Surveillance, Epidemiology, and End Results (SEER).
    d. American Society of Clinical Oncology (ASCO).

13. The Commission on Cancer’s Cancer Program Practice Profile Reports (CP3R) provides feedback to the CoC-accredited cancer programs on their performance to cancer quality measures.
study questions

1. How is central cancer registry data different from hospital cancer registry data?
   a. Central cancer registry data are more accurate than hospital cancer registry data.
   b. Central cancer registry data are the best source of information on the quality of patient care in a hospital.
   c. Central cancer registry data are less accurate than hospital cancer registry data.
   d. Central cancer registry data can be used to accurately determine site-specific cancer incidence rates in the population.

2. Why has interest in using central cancer registry data for research increased in recent years?
   a. Data from the central cancer registry are easier to obtain than data from the hospital cancer registry.
   b. Data from the central cancer registry provide a framework for answering questions of external validity.
   c. Data from the central cancer registry provide a framework for answering questions of internal validity.
   d. The interest in using central cancer registry data for research has not increased.

3. Define population-based cancer control research.

4. List the four categories of cancer control research that use central cancer registry data.
5. How can central cancer registry data be used for policy research?
   a. Central cancer registry data cannot be used for policy research; only hospital registry data can be used for this type of research.
   b. Central cancer registry data provide a way to identify geographic areas that might benefit from policy initiatives.
   c. Central cancer registry data provide a way to measure the impact of policy changes.
   d. b and c

6. Define cancer control.

7. What is secondary prevention?
   a. Slowing disease progression, preventing complications, and limiting disability
   b. Preventing a second cancer from occurring
   c. Requiring a second intervention to prevent the disease
   d. All of the above

8. Treatment activities for cancer are considered part of cancer control.
   a. True
   b. False

9. Why is central cancer registry data so important to cancer control?

10. List the four steps in the model for cancer control.

11. What is the screening effect?
   a. The risk of being harmed by the screening procedure
   b. The fact that when you screen for disease you find new previously unidentified cases of cancer causing the incidence rate to increase
   c. The effectiveness of the screening procedure to correctly identify people who actually have the disease
   d. The effectiveness of the screening procedure to correctly identify people who do not actually have the disease

12. Which of the following is not a limitation associated with using central cancer registry data for cancer control?
   a. A small number of cancer cases occurring in a geographic area
   b. The screening effect
   c. A low cancer mortality rate in a geographic area
   d. The nature and complexity of the diseases we classify together as cancer
13. List the four data sources that are generally available in each U.S. state and can be used for defining the burden of cancer.

14. List the four steps in the logic model for combining information from these four data sources.

15. List the three major types of cancer for which evidence-based cancer control intervention strategies are currently available.

16. Central cancer registries are an integral part of any cancer control program. The central cancer registry data, together with other population-based data sources, represent the “eyes” of a cancer control program. Without these eyes, it would not be possible to see our cancer control problems, and we could not see the impact of our cancer control activities.
   a. True
   b. False
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   a. Central cancer registry data are more accurate than hospital cancer registry data.
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   c. Data from the central cancer registry provide a framework for answering questions of internal validity.
   d. The interest in using central cancer registry data for research has not increased.

3. Define population-based cancer control research.
   "The conduct of basic and applied research in the behavioral, social, and population sciences to create or enhance interventions that, independently or in combination with biomedical approaches, reduce cancer risk, incidence, morbidity and mortality."

4. List the four categories of cancer control research that use central cancer registry data.
   a. Primary prevention and chemoprevention research
   b. Biomarkers, screening and early detection studies
   c. Patterns of care research
   d. Survivorship research

5. How can central cancer registry data be used for policy research?
   a. Central cancer registry data cannot be used for policy research; only hospital registry data can be used for this type of research.
   b. Central cancer registry data provide a way to identify geographic areas that might benefit from policy initiatives.
   c. Central cancer registry data provide a way to measure the impact of policy changes.
   d. b and c

6. Define cancer control.
   "The use of evidence-based prevention, early detection, diagnosis, treatment, and continuing care intervention strategies to reduce cancer incidence, morbidity, and mortality in defined populations."
7. What is secondary prevention?
   a. Slowing disease progression, preventing complications, and limiting disability
   b. Preventing a second cancer from occurring
   c. Requiring a second intervention to prevent the disease
   d. All of the above

8. Treatment activities for cancer are considered part of cancer control.
   a. True
   b. False

9. Why is central cancer registry data so important to cancer control?
   "Without the type of information contained in most central cancer registries, we could not focus our limited cancer control resources on the areas with the greatest need, and we could not evaluate the effectiveness of our cancer control interventions."

10. List the four steps in the model for cancer control.
    a. Identify the burden of cancer in geographic areas and by characteristics of person (measure).
    b. Share this information with community organizations so they can target the areas and populations most in need and plan appropriate intervention strategies (plan).
    c. Implement the intervention plan (act).
    d. Measure whether the desired changes occurred (measure).

11. What is the screening effect?
    a. The risk of being harmed by the screening procedure
    b. The fact that when you screen for disease you find new previously unidentified cases of cancer causing the incidence rate to increase
    c. The effectiveness of the screening procedure to correctly identify people who actually have the disease
    d. The effectiveness of the screening procedure to correctly identify people who do not actually have the disease

12. Which of the following is not a limitation associated with using central cancer registry data for cancer control?
    a. A small number of cancer cases occurring in a geographic area
    b. The screening effect
    c. A low cancer mortality rate in a geographic area
    d. The nature and complexity of the diseases we classify together as cancer
13. List the four data sources that are generally available in each U.S. state and can be used for defining the burden of cancer.
   a. U.S. Census data
   b. Behavioral Risk Factor Surveillance System (BRFSS) data
   c. Central cancer registry data
   d. Vital records mortality data

14. List the four steps in the logic model for combining information from these four data sources.
   (a) Demographic characteristics (poverty and literacy) contribute to (b) risk behaviors (smoking or not being screened), which contribute to (c) the incidence of cancer and/or stage at diagnosis, which contributes to (d) mortality from the disease.

15. List the three major types of cancer for which evidence-based cancer control intervention strategies are currently available.
   a. Lung cancer
   b. Colorectal cancer
   c. Breast cancer

16. Central cancer registries are an integral part of any cancer control program. The central cancer registry data, together with other population-based data sources, represent the “eyes” of a cancer control program. Without these eyes, it would not be possible to see our cancer control problems, and we could not see the impact of our cancer control activities.
   a. True
   b. False
study questions

1. Central cancer registries are _________________-based.
   a. hospital or clinic
   b. cancer site
   c. population
   d. age

2. Central cancer registries try to collect information on all newly diagnosed cancer cases in a geographic area to _________________.
   a. assess how much cancer care costs
   b. describe the cancer burden
   c. determine which hospital diagnoses the most cancer patients
   d. calculate mortality rates

3. Which state was the first to start collecting cancer incidence data?
   a. Montana
   b. New York
   c. California
   d. Connecticut

4. As states formed their own cancer registries in the 1970s and 1980s, they used:
   a. SEER rules.
   b. hospital rules.
   c. their own rules.
   d. all of the above.
5. Which of the following groups originally got together to form the American Association of Central Cancer Registries?
   a. Iowa, Illinois, Florida, and Georgia
   b. National Cancer Registrars Association, Centers for Disease Control and Prevention, Statistics Canada, American Cancer Society, and American College of Surgeons
   c. National Cancer Institute, American College of Surgeons, American Association of Cancer Institutes, and the American Cancer Society
   d. Memorial Sloan Kettering, Mayo Clinic, MD Anderson, and NCRA

6. NCRA is a founding and Sponsoring Member of NAACCR.
   a. True
   b. False

7. The American Association of Central Cancer Registries became the North American Association of Central Cancer Registries when:
   a. several Canadian provinces sought membership and expressed interest in adopting the same standards.
   b. the International Association of Cancer Registries met in Canada.
   c. All of the above
   d. None of the above

8. NAACCR is governed by:
   a. a Board of Directors.
   b. NCRA.
   c. NCI.
   d. CDC.

9. Employees of central cancer registries in North America are considered NAACCR members.
   a. True
   b. False

10. The mission of NAACCR is to:
    a. collect all cancer cases in North America and aggregate them into a single database.
    b. certify cancer registries.
    c. promote uniform data standards, provide education and training, aggregate and publish data, certify registries, and promote data use.
    d. produce cancer maps for North America.
11. NAACCR work is done primarily by:
   a. various committees, work groups, task forces, and ad hoc groups composed of volunteers.
   b. independent contractors and coders.
   c. staff from comprehensive cancer centers.
   d. researchers.

12. The NAACCR committee that evaluates new data items and codes is:
   a. Data Evaluation and Certification Committee.
   b. Data Use and Research Committee.
   c. Uniform Data Standards Committee.
   d. Information Technology Committee.

13. NAACCR’s first standards volume published in 1994 represented the status of agreed-on data items and codes. The groups agreeing to these standards were:
   a. NAACCR, American College of Surgeons, National Cancer Institute, Centers for Disease Control and Prevention, National Cancer Registrars Association.
   b. NAACCR, American Joint Commission on Cancer, American Cancer Society, National Cancer Institute.
   c. NAACCR, National Cancer Data Base, National Cancer Institute, National Cancer Registrars Association.
   d. none of the above.

14. NAACCR set criteria for the certification of central cancer registries that are out of reach for most cancer registries.
   a. True
   b. False

15. NAACCR certification criteria are based on measures to assess:
   a. timeliness of data.
   b. accuracy of data.
   c. completeness of data.
   d. all of the above.

16. To aggregate cancer data over different jurisdictions, data must be:
   a. collected using the same rules and definitions.
   b. cover the same time period.
   c. be of the same quality.
   d. all of the above.
17. The NAACCR committee structure provides an opportunity:
   a. to have a national forum to discuss issues and develop a consensus.
   b. to discuss minor points fully.
   c. for cancer surveillance groups to impose new standards.
   d. for registries to work in a vacuum.

18. Cancer in North America (CINA) includes data on more than _____ million cancer cases.
   a. 2
   b. 4
   c. 6
   d. 8

19. Data research products produced by NAACCR include:
    a. CINA.
    b. CINA+ Online.
    c. CINA Deluxe.
    d. all of the above.

20. NAACCR makes data available for researchers who are members of NAACCR.
    a. True
    b. False
1. Central cancer registries are ______________-based.
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   b. cancer site
   c. population
   d. age

2. Central cancer registries try to collect information on all newly diagnosed cancer cases in a geographic area to ________________.
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    d. produce cancer maps for North America.

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    a. various committees, work groups, task forces, and ad hoc groups composed of volunteers.
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   b. NAACCR, American Joint Commission on Cancer, American Cancer Society, National Cancer Institute.
   c. NAACCR, National Cancer Data Base, National Cancer Institute, National Cancer Registrars Association.
   d. none of the above

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   a. CINA.
   b. CINA+ Online.
   c. CINA Deluxe.
   d. all of the above.

20. NAACCR makes data available for researchers who are members of NAACCR.
   a. True
   b. False
study questions

1. Population-based cancer registration started at the provincial/territorial level in Canada in what year?
   a. 1930
   b. 1932
   c. 1935
   d. 1937

2. Canada has 13 independent provincial/territorial registries that report to its national registry system.
   a. True
   b. False

3. The largest provincial/territorial registry in Canada is operated by the province of _____________ and covers approximately 38% of the total Canadian population.

4. How many provincial/territorial cancer registries cover less than a 1 million population?
   a. 3
   b. 5
   c. 7
   d. 8

5. Canada’s provinces and territories administer publically funded health insurance programs by assigning a unique, lifetime identifier referred to as the ________________.
6. Cancer is a reportable disease (by law) in all Canadian provinces and territories.
   a. True
   b. False

7. The Canadian Council of Cancer Registries offers a certification program for cancer registrars.
   a. True
   b. False

8. Canada has operated a person-oriented national-level cancer registry system at Statistics Canada since what year?
   a. 1969
   b. 1982
   c. 1992
   d. 2004

9. Ethnicity data are a standard data element in the Canadian Cancer Registry.
   a. True
   b. False

10. A national stage data standard (Collaborative Stage), the first in Canada, was established by the Canadian Council of Cancer Registries for the incidence year _______.

11. The most recent census estimates the Canadian population at close to 32 million, making the population coverage of the Canadian Cancer Registry similar to the State of California.
   a. True
   b. False

12. What is the estimate of the number of records held in the Canadian Cancer Registry database once the 2010 Call for Data is processed?
   a. 1.5 million
   b. 2.5 million
   c. 3.0 million
   d. 3.5 million

13. Ongoing death clearance processing is conducted by Statistics Canada through record linkage of the Canadian Cancer Registry to national mortality data.
   a. True
   b. False
14. Statistics Canada issues the annual Call for Data to provincial/territorial registries within how many months after the end of an accession year?
   a. 12
   b. 14
   c. 16
   d. 18

15. Standards for the collection of health information in Canada are established in Canada through the national agency _____________________________.

16. Development of electronic health records in Canada is being led by which national organization?
   a. Canadian Institute for Health Information
   b. Public Health Agency of Canada
   c. Canada Health Infoway
   d. Statistics Canada

17. The Canadian Partnership Against Cancer is a new organization, responsible for addressing national cancer-control issues.
   a. True
   b. False

18. The Canadian Cancer Registry has recommended the adoption of the SEER 2007 Multiple Primary Rules for provincial/territorial reporting.
   a. True
   b. False

19. A key annual publication coordinated by the Canadian Cancer Society that reports national cancer statistics is known as:
   a. Canadian Cancer Statistics.
   b. Cancer in Canada.
   c. National Cancer Data for Canada.
   d. Canadian Cancer Estimates.

20. The Canadian Partnership Against Cancer is working to support surveillance activities in Canada, and one of its main initiatives that makes funding available to provincial/territorial registries to improve the collection of stage data is known as the ______________________.
1. Population-based cancer registration started at the provincial/territorial level in Canada in what year?
   a. 1930
   b. 1932
   c. 1935
   d. 1937

2. Canada has 13 independent provincial/territorial registries that report to its national registry system.
   a. True
   b. False

3. The largest provincial/territorial registry in Canada is operated by the province of Ontario and covers approximately 38% of the total Canadian population.

4. How many provincial/territorial cancer registries cover less than a 1 million population?
   a. 3
   b. 5
   c. 7
   d. 8

5. Canada’s provinces and territories administer publically funded health insurance programs by assigning a unique, lifetime identifier referred to as the Health Card Number, or HCN.

6. Cancer is a reportable disease (by law) in all Canadian provinces and territories.
   a. True
   b. False

7. The Canadian Council of Cancer Registries offers a certification program for cancer registrars.
   a. True
   b. False

8. Canada has operated a person-oriented national-level cancer registry system at Statistics Canada since what year?
   a. 1969
   b. 1982
   c. 1992
   d. 2004
9. Ethnicity data are a standard data element in the Canadian Cancer Registry.
   a. True
   b. False

10. A national stage data standard (Collaborative Stage), the first in Canada, was established by the Canadian Council of Cancer Registries for the incidence year 2004.

11. The most recent census estimates the Canadian population at close to 32 million, making the population coverage of the Canadian Cancer Registry similar to the State of California.
   a. True
   b. False

12. What is the estimate of the number of records held in the Canadian Cancer Registry database once the 2010 Call for Data is processed?
   a. 1.5 million
   b. 2.5 million
   c. 3.0 million
   d. 3.5 million

13. Ongoing death clearance processing is conducted by Statistics Canada through record linkage of the Canadian Cancer Registry to national mortality data.
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   b. 14
   c. 16
   d. 18

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19. A key annual publication coordinated by the Canadian Cancer Society that reports national cancer statistics is known as:
   a. Canadian Cancer Statistics.
   b. Cancer in Canada.
   c. National Cancer Data for Canada.
   d. Canadian Cancer Estimates.

20. The Canadian Partnership Against Cancer is working to support surveillance activities in Canada, and one of its main initiatives that makes funding available to provincial/territorial registries to improve the collection of stage data is known as the National Staging Initiative.
study questions

1. What is the goal of the Commission on Cancer?

2. How many member organizations are involved with the Commission on Cancer?

3. What are the four cornerstones of cancer program accreditation?

4. List three benefits of cancer program accreditation.

5. What is the primary purpose of the Outstanding Achievement Award?

6. What are the three eligibility requirements that must be met before a cancer program can be considered for survey?

7. How many Commission on Cancer–accredited cancer programs are there in the United States and Puerto Rico?

8. What percentage of newly diagnosed cancer patients are accessioned annually into the National Cancer Data Base?

9. Name two ways the National Cancer Data Base data are used.
10. Name one National Cancer Data Base Web-based tool.

11. What is the name of the Commission on Cancer’s data standards manual?

12. Name the primary role of the Cancer Liaison Physician.

13. What is an objective of the American Cancer Society/Commission on Cancer partnership?
1. What is the goal of the Commission on Cancer?
   To improve survival and quality of life for cancer patients through standard setting, prevention, research, education, and the monitoring of comprehensive quality care.

2. How many member organizations are involved with the Commission on Cancer?
   48

3. What are the four cornerstones of cancer program accreditation?
   a. Cancer committee
   b. Cancer conferences
   c. Cancer registry
   d. Quality improvement program

4. List three benefits of cancer program accreditation.
   You may have named any three of the following:
   a. Provides a framework for cancer program structure and process
   b. Includes access to cancer program and data standards
   c. Provides for external and internal assessments of the quality of care being provided to cancer patients
   d. Allows access to the National Cancer Data Base to assess and improve care
   e. Provides educational tools, resources, and best practices to enhance cancer program performance
   f. Results in promotion and recognition by the public, payers, and government agencies

5. What is the primary purpose of the Outstanding Achievement Award?
   To recognize cancer programs that strive for excellence in providing quality care to the cancer patient

6. What are the three eligibility requirements that must be met before a cancer program can be considered for survey?
   Before the initial survey, the institution must:
   a. demonstrate 1 year of compliance with the standards.
   b. have accrued 2 years of data with 1 year of successful follow-up.
   c. have met the requirements for consideration for accreditation as outlined in the Cancer Program Standards manual.

7. How many Commission on Cancer–accredited cancer programs are there in the United States and Puerto Rico?
   More than 1,450
8. What percentage of newly diagnosed cancer patients are accessioned annually into the National Cancer Data Base?

70%

9. Name two ways the National Cancer Data Base data are used.

You may have named any two of the following:

a. Measure treatment patterns and outcomes.
b. Evaluate hospital provider performance.
c. Conduct research and develop focused studies to meet the demand for an ongoing assessment of the quality of cancer care.
d. Assess and validate nationally accepted quality measures for cancer care.
e. Develop effective resources and tools to improve outcomes at the national, regional, and local levels.

10. Name one National Cancer Data Base Web-based tool.

You may have named any one of the following:

a. Benchmark Hospital Comparison Reports
b. NCDB Survival Reports
c. Cancer Program Practice Profile Reports
d. Rapid Quality Reporting System
e. NCDB Public Benchmark Reports

11. What is the name of the Commission on Cancer’s data standards manual?

Facility Oncology Registry Data Standards (FORDS) manual

12. Name the primary role of the Cancer Liaison Physician.

Interpret and monitor their facility’s National Cancer Data Base (NCDB) data and the facility’s plan to use the information to evaluate and improve quality of care, report NCDB data to the cancer committee on a quarterly basis, report on Commission on Cancer activities to the cancer committee, and serve as liaison for their cancer program with the American Cancer Society and facilitate development of a collaboration plan.

13. What is an objective of the American Cancer Society/Commission on Cancer partnership?

Expanding cancer awareness/information availability, as well as American Cancer Society (ACS) services delivery at the community level, increasing utilization of ACS services and programs at Commission on Cancer (CoC)-accredited cancer programs, engaging the Cancer Liaison Physicians in the CoC-accredited cancer programs to support implementation of local prevention and early detection programs and state cancer plans, and promoting CoC-accredited cancer programs and the quality of care provided at these facilities.
study questions

1. In what year was the first edition of the Cancer Staging Manual published?
   a. 1959
   b. 1941
   c. 1977
   d. 1983

2. The organizations that started the AJCC are known as:
   a. Initiating Members.
   b. Founding Members.
   c. Sponsoring Members.
   d. College Members.

3. Before being known as the AJCC, what was the group called?
   a. American College of Surgeons
   b. International Union Against Cancer
   c. American Joint Committee for Cancer Staging and End Results Reporting
   d. Joint Commission

4. Which organization is the administrative sponsor of the AJCC?
   a. International Union Against Cancer
   b. Commission on Cancer
   c. National Cancer Database
   d. American College of Surgeons
5. What is the revision cycle for the AJCC Cancer Staging Manual?
   a. Annually
   b. 2–3 years
   c. 6–8 years
   d. 8–10 years

6. In what year was Version 1 of the Collaborative Staging System released?
   a. 2001
   b. 2004
   c. 2005
   d. 2009

7. Which organization is the administrative sponsor for the Collaborative Stage Data Collection System?
   a. American College of Surgeons
   b. AJCC
   c. College of American Pathologists
   d. SEER

8. Membership in the AJCC is restricted to organization representatives only.
   a. True
   b. False

9. The TNM staging system describes the anatomic extent of cancer at the time of the initial diagnosis and before the application of definitive treatment.
   a. True
   b. False

10. The AJCC’s role within the Commission on Cancer is to define policies and procedures to assist the registrar in getting physicians to document stage.
    a. True
    b. False

11. The AJCC was founded by two organizations, the American College of Surgeons and the America Cancer Society.
    a. True
    b. False
   a. True
   b. False

13. Nonanatomic factors were first added to the classifications that modified stage groups beginning with the sixth edition of the AJCC Cancer Staging Manual.
   a. True
   b. False

14. Collaborative Staging was originally developed to provide a translation between the TNM staging system of the AJCC and the SEER Summary Staging System.
   a. True
   b. False
1. In what year was the first edition of the Cancer Staging Manual published?
   a. 1959
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14. Collaborative Staging was originally developed to provide a translation between the TNM staging system of the AJCC and the SEER Summary Staging System.
    a. True
    b. False
1. Quality Assurance Programs transformed into ______________ Programs.

2. A common performance improvement model used in many hospitals is the ______________ . ______________ , ______________ , and ______________ model.

3. ______________ are descriptions of key elements in the process of care that should be accomplished to achieve maximum quality and maximum cost.

4. ______________ was the name of the TJC’s initiative to integrate performance processes into the accreditation process.

5. TJC defines a core measure set as a “unique grouping of ______________ carefully selected to provide, when viewed together, a robust picture of the care provided in a given area.”

6. The conception of TJC began with Dr. Ernest Codman.
   a. True
   b. False

7. Hospital standardization was one of the first activities of the newly formed American College of Surgeons (ACoS).
   a. True
   b. False

8. The request for accreditation was, and continues to be, considered mandatory.
   a. True
   b. False
9. Hospitals are required to collect and transmit data on the noncore measures.
   a. True
   b. False

10. The principles of the minimum standard were considered necessary to ensure the proper care of patients in any hospital and were the beginning of the accreditation process as we know it today. How many standards were there in the minimum standard?
   a. Four
   b. Five
   c. Six
   d. Eight

11. The American College of Surgeons (ACoS) was founded by ___________________ with other physicians in 1910.
   a. Dr. Green and Dr. Martin
   b. Dr. Codman and Dr. Green
   c. Dr. Martin and Dr. Codman
   d. all of the above

Use the choices below to answer questions 12 and 13:
A. Redesign of TJC’s Standards to stress the entire organization’s effectiveness in patient services
B. Patient outcomes are influenced by all of the activities of a healthcare organization
C. Continuous improvement in the quality of care should be a priority of healthcare organizations
D. Redesign of the survey process to provide more interactive consultative services
E. Development of a national performance measurement system, commonly known as the Indicator Measurement System
F. TJC should focus on these activities of healthcare organizations that are most important to the quality of care
G. Traditional assessments of compliance with standards should be complemented by the accredited organization’s collection, analysis, and feedback of data that reflect their actual performance in undertaking key activities

12. What are the four underlying concepts for the Agenda for Change?
   ______
   ______
   ______
   ______
13. The three major initiatives for the Agenda for Change include:

   _____
   _____
   _____

14. Match the following words with their definition:

   A. Agenda for Change
   B. Performance measurement system
   C. Audit
   D. Clinical practice guidelines
   E. Quality assurance

   _____ A formal approach to one of the original TJC’s minimum standards
   _____ A retrospective tool to assess quality of care
   _____ A new movement in the 1980s that was a response to the dramatic increase in healthcare costs
   _____ Outlines of strategies for patient management that describes a range of acceptable ways to diagnose, manage, or prevent specific diseases and conditions
   _____ An inter-related set of outcomes and/or processes that support internal comparisons or organizations’ performance over time and external comparison of performance among organizations at comparable times
1. Quality Assurance Programs transformed into Performance Improvement Programs.

2. A common performance improvement model used in many hospitals is the plan, do, check, and act model.

3. Critical pathways are descriptions of key elements in the process of care that should be accomplished to achieve maximum quality and maximum cost.

4. ORYX® was the name of TJC’s initiative to integrate performance processes into the accreditation process.

5. TJC defines a core measure set as a “unique grouping of performance measures carefully selected to provide, when viewed together, a robust picture of the care provided in a given area.”

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8. The request for accreditation was, and continues to be, considered mandatory.
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   a. True
   b. False
10. The principles of the minimum standard were considered necessary to ensure the proper care of patients in any hospital and were the beginning of the accreditation process as we know it today. How many standards were there in the minimum standard?
   a. Four
   b. Five
   c. Six
   d. Eight

11. The American College of Surgeons (ACoS) was founded by ________________ with other physicians in 1910.
   a. Dr. Green and Dr. Martin
   b. Dr. Codman and Dr. Green
   c. Dr. Martin and Dr. Codman
   d. all of the above

Use the choices below to answer questions 12 and 13:
   A. Redesign of TJC’s Standards to stress the entire organization’s effectiveness in patient services
   B. Patient outcomes are influenced by all of the activities of a healthcare organization
   C. Continuous improvement in the quality of care should be a priority of healthcare organizations
   D. Redesign of the survey process to provide more interactive consultative services
   E. Development of a national performance measurement system, commonly known as the Indicator Measurement System
   F. TJC should focus on these activities of healthcare organizations that are most important to the quality of care
   G. Traditional assessments of compliance with standards should be complemented by the accredited organization’s collection, analysis, and feedback of data that reflect their actual performance in undertaking key activities

12. What are the four underlying concepts for the Agenda for Change?
   B
   C
   F
   G

13. The three major initiatives for the Agenda for Change include:
   A
   D
   E
14. Match the following words with their definition:
   A. Agenda for Change
   B. Performance measurement system
   C. Audit
   D. Clinical practice guidelines
   E. Quality assurance

   **E** A formal approach to one of the original TJC’s minimum standards
   **C** A retrospective tool to assess quality of care
   **A** A new movement in the 1980s that was a response to the dramatic increase in healthcare costs
   **D** Outlines of strategies for patient management that describes a range of acceptable ways to diagnose, manage, or prevent specific diseases and conditions
   **B** An inter-related set of outcomes and/or processes that support internal comparisons or organizations’ performance over time and external comparison of performance among organizations at comparable times
1. What law led to the establishment of the SEER Program?

2. What are some unique features of the SEER database?

3. The SEER registries routinely collect data on what types of information on the patients and their cancers?

4. Name two local sources of initial case finding.

5. Name three sources of follow-up information.

6. How recent is the complete data set submitted by the SEER registries in November of each year?

7. What analytic software program is used to test trends in cancer statistics for statistical significance?

8. What advantages did the Data Management System (SEER*DMS) bring to central cancer registry operations?

9. How will NCI’s multiyear, multiphase cost analysis assist in the evaluation of the SEER Program?

10. Define “limited-duration prevalence” and “complete prevalence.” What software is used to calculate complete prevalence based on limited-duration prevalence statistics?
11. What is the purpose of delay modeling?

12. Name three annual statistical reports where SEER data are combined with data from other national surveillance partners.

13. Through its Web site (http://seer.cancer.gov/), SEER makes available public-use data, which include SEER incidence and population data associated by age, sex, race, year of diagnosis, and geographic areas (including SEER registry and county). The data file is free, but a signed data agreement is required. Beyond the data/software package SEER*Stat, what is available on the Web site for statistical inquiries?

14. Beginning in 2003, NCI funded SEER registries to link their data to what database, aimed at addressing racial misclassification in the cancer registries, and although not perfect, it is a logical step in the process of identifying addition cancer cases among American Indian and Alaska Native populations?

15. Investigators have examined the use of cancer tests and procedures and the costs of cancer treatment through a collaborative effort linking SEER data to what other database?

16. SEER is being linked to the National Longitudinal Mortality Study (NLMS; http://surveillance.cancer.gov/disparities/nlms/) to add socioeconomic data at the individual level that cannot be obtained from the SEER database itself. What data elements are available in the NLMS?

17. For more than two decades, NCI has utilized this flexible mechanism of Rapid Response Surveillance Studies (http://seer.cancer.gov/rapidresponse/) to conduct studies by individual and collaborative groups of SEER investigators. What are the six categories of studies?

18. What coding system formed the basis for the Collaborative Staging (CS) System implemented in 2004 as part of the effort to simplify and standardize the rules and guidelines for collecting cancer data in the United States?

19. Validation of data quality in SEER registries is a coordinated process involving audits of completeness and accuracy of coding and abstracting. The audit scores are combined with two other aspects of a registry’s performance—the NAACCR certification standards and analysis of the public use data file—to produce a Data Quality Profile (DQP). What are the data quality goals used for the DQP for death certificate only cases, completeness, and follow-up for vital status?

1. What law led to the establishment of the SEER Program?
   The National Cancer Act of 1971

2. What are some unique features of the SEER database?
   In addition to the capturing data on the anatomic origin of each cancer or primary site, there is information on more than 300 anatomic subsites and 500 histologic subtypes. The SEER Program is the only comprehensive source of population-based data in the United States that includes stage of cancer at the time of diagnosis and survival rates by stage. It is the population-based national source with the longest record of incidence and survival data with a 35-year history in most of its registries.

   Other unique features of the SEER database include depth of the database available for research, accessibility, and usability of public-use data and software; leadership in defining data elements and setting data standards; innovation in data collection, such as linkages and electronic data capture; and development of analytical methods for use with population-based data.

3. The SEER registries routinely collect data on what types of information on the patients and their cancers?
   a. Patient demographics
   b. Primary tumor site
   c. Tumor morphology and stage at diagnosis
   d. Initial course of cancer treatment
   e. Follow-up for vital status

4. Name two local sources of initial case finding.
   Among other sources, you may have named any two of the following:
   a. Hospital registries
   b. Pathology laboratories
   c. Electronic pathology reports
   d. Physicians’ offices and clinics

5. Name three sources of follow-up information.
   You may have named any three of the following:
   a. Social Security Administration
   b. State vital records departments
   c. National Death Index
   d. Motor vehicle registration
6. How recent is the complete data set submitted by the SEER registries in November of each year?
   Data submitted in November is complete to January 1 of the preceding year.

7. What analytic software program is used to test trends in cancer statistics for statistical significance?

8. What advantages did the Data Management System (SEER*DMS) bring to central cancer registry operations?
   SEER*DMS provides support for all core cancer registry functions—case finding, importing data, editing, linkage, consolidation, data submission, and reporting. SEER*DMS improves cost efficiency and reduces duplication of effort in terms of system maintenance and administration. Furthermore, the centralized system design and development improves data quality and consistency, increases efficiency, and increases the sharing of knowledge and experience among registries.

9. How will NCI’s multiyear, multiphase cost analysis assist in the evaluation of the SEER Program?
   Data obtained will provide a basis on which to examine the total costs of operating the 15 contracts and how these costs vary by category across registries, how different sources of revenue are used by the registries to fund their operations, the relationships between various inputs and the outputs produced by specific registry functions, and the geographic, population, and organizational factors that account for some of the variability in costs across the registries.

10. Define “limited-duration prevalence” and “complete prevalence.” What software is used to calculate complete prevalence based on limited-duration prevalence statistics?
    Limited-duration prevalence represents the proportion of people alive on a certain day who had a diagnosis of the disease within the past x years. Complete prevalence represents the proportion of people alive on a certain day who previously had a diagnosis of the disease, regardless of how long ago the diagnosis was, or if the patient is still under treatment or is considered cured (http://srab.cancer.gov/prevalence/).
    The ComPrev software calculates complete prevalence based on limited-duration prevalence statistics (http://srab.cancer.gov/comprev/).

11. What is the purpose of delay modeling?
    In each release of the SEER data, all prior diagnosis years are updated as either new cases are found or new information is received about previously submitted cases. The submissions for the most recent diagnosis year are, in general, about 2% less than the number of cancers that will be submitted for that year in the future, although this varies by cancer site and other factors. The idea behind modeling reporting delay is to adjust the current case count to account for anticipated future additions, deletions, and corrections to the data (http://srab.cancer.gov/delay/).
12. Name three annual statistical reports where SEER data are combined with data from other national surveillance partners.
   a. "Annual Report to the Nation on the Status of Cancer"
   b. Cancer in North America
   c. U.S. Cancer Statistics

13. Through its Web site (http://seer.cancer.gov/), SEER makes available public-use data, which include SEER incidence and population data associated by age, sex, race, year of diagnosis, and geographic areas (including SEER registry and county). The data file is free, but a signed data agreement is required. Beyond the data/software package SEER*Stat, what is available on the Web site for statistical inquiries?
   a. Fast*Stats
   b. Statistical Fact Sheets
   c. Cancer Query System (CANQUES)

14. Beginning in 2003, NCI funded SEER registries to link their data to what database, aimed at addressing racial misclassification in the cancer registries, and although not perfect, it is a logical step in the process of identifying addition cancer cases among American Indian and Alaska Native populations?
   Indian Health Service (IHS) patient registration database

15. Investigators have examined the use of cancer tests and procedures and the costs of cancer treatment through a collaborative effort linking SEER data to what other database?
   Medicare claims data

16. SEER is being linked to the National Longitudinal Mortality Study (NLMS; http://surveillance.cancer.gov/disparities/nlms/) to add socioeconomic data at the individual level that cannot be obtained from the SEER database itself. What data elements are available in the NLMS?
   Self-reported race/ethnicity, marital status, education, income, occupation and industry, residence, nativity/immigrant status, smoking status, health status, and availability of health insurance

17. For more than two decades, NCI has utilized this flexible mechanism of Rapid Response Surveillance Studies (http://seer.cancer.gov/rapidresponse/) to conduct studies by individual and collaborative groups of SEER investigators. What are the six categories of studies?
   a. Evaluating methodologic issues
   b. Evaluating cancer treatment and outcomes
   c. Monitoring screening practices
   d. Monitoring health behaviors and risk factors
   e. Linking databases
   f. Improving technical aspects of registry operations
18. What coding system formed the basis for the Collaborative Staging (CS) System implemented in 2004 as part of the effort to simplify and standardize the rules and guidelines for collecting cancer data in the United States?

SEER Extent of Disease coding system

19. Validation of data quality in SEER registries is a coordinated process involving audits of completeness and accuracy of coding and abstracting. The audit scores are combined with two other aspects of a registry’s performance—the NAACCR certification standards and analysis of the public use data file—to produce a Data Quality Profile (DQP). What are the data quality goals used for the DQP for death certificate only cases, completeness, and follow-up for vital status?

The SEER DQP goals are as follows:

a. Less than 1.5% death certificate only cases
b. Greater than 98% estimated completeness
c. More than 90% follow-up of patients (95% for those 65 years old or older)


a. Hematopoietic & Lymphoid Neoplasms online training: educational recordings of presentations for the hematopoietic and lymphoid neoplasms project
b. Multiple Primary and Histology (MP/H) Coding Rules training: recordings of the online MP/H Coding Rules training sessions
c. SEER’s Training Web site: Web-based training modules for cancer registration and surveillance
study questions

1. The National Program of Cancer Registries' objectives are outlined in the ________________.

2. Data evaluation results are only used to determine inclusion in publications.
   a. True
   b. False

3. Name three evaluation activities conducted by the National Program of Cancer Registries.

4. A National Program of Cancer Registries goal is to provide data to ________________ so that the ________________ can be monitored and that ________________ can be planned.

5. In situ bladder cancer cases are included in the National Program of Cancer Registries Cancer Surveillance System analytic file.
   a. True
   b. False

6. What is the title of the publication of official annual federal cancer statistics?
   a. Cancer in North America
   b. Annual Report to the Nation
   c. United States Cancer Statistics
   d. CDC WONDER
7. Content for educational programs is identified through ________________.

8. All National Program of Cancer Registries training materials are available with an annual subscription.
   a. True
   b. False

9. The Cyber Cancer Registry provides new cancer registrars an opportunity to gain hands-on practice in cancer registry operations.
   a. True
   b. False
1. The National Program of Cancer Registries' objectives are outlined in the Cancer Registries Amendment Act.

2. Data evaluation results are only used to determine inclusion in publications.
   a. True
   b. False

3. Name three evaluation activities conducted by the National Program of Cancer Registries.
   a. NPCR-CSS Data Evaluation Reports
   b. NPCR Program Evaluation Instrument
   c. NPCR Data Completeness and Quality Audits

4. A National Program of Cancer Registries goal is to provide data to public health planners so that the burden of disease can be monitored and that cancer prevention and control programs can be planned.

5. In situ bladder cancer cases are included in the National Program of Cancer Registries Cancer Surveillance System analytic file.
   a. True
   b. False

6. What is the title of the publication of official annual federal cancer statistics?
   a. Cancer in North America
   b. Annual Report to the Nation
   c. United States Cancer Statistics
   d. CDC WONDER

7. Content for educational programs is identified through quality assurance activities.

8. All National Program of Cancer Registries training materials are available with an annual subscription.
   a. True
   b. False

9. The Cyber Cancer Registry provides new cancer registrars an opportunity to gain hands-on practice in cancer registry operations.
   a. True
   b. False
study questions

1. In what publication would you find an abstract/article about developing a trauma registry?

2. What are the goals and objectives for education and professional development in NCRA?

3. How long is the term of office for someone who is voted in as President-Elect/Secretary of the NCRA?
   a. 1 year
   b. 2 years
   c. 3 years

4. What committee determines the process and development of the Distinguished Member Award?

5. Which of the following meets the eligibility requirements for the Council on Certification?
   a. Previously a State Association President
   b. Is a committee member of the Formal Education Committee
   c. Has been a CTR for 5 years
   d. Has served two consecutive terms as a representative for the Council on Certification

6. Why was the Education Foundation formed?
7. You work in a hospital. Your colleague, a CTR, has just been fired. You see her destroying registry records. What NCRA committee would you notify?

8. How long is the term of office for someone elected to the position of Treasurer Junior?
   a. 1 year
   b. 2 years
   c. 3 years
   d. 4 years

9. What year was the Education Foundation granted its 501C3 tax status?

10. How many hours of practicum experience are required under Route A before taking the CTR examination?
    a. 20 hours
    b. 500 hours
    c. 50 hours
    d. 160 hours
    e. 240 hours
1. In what publication would you find an abstract/article about developing a trauma registry?  
Journal of Registry Management (JRM)

2. What are the goals and objectives for education and professional development in NCRA?  
   a. Provide comprehensive educational opportunities that are accessible, cost appropriate and forward thinking.  
   b. Develop a comprehensive education plan to meet the changing demands of the profession and the CTR-credentialed individual.  
   c. Deliver basic and advanced (post-CTR) education opportunities.  
   d. Expand and enhance formal education opportunities.  
   e. Monitor and encourage informatics role in cancer registry profession.

3. How long is the term of office for someone who is voted in as President-Elect/Secretary of the NCRA?  
   a. 1 year  
   b. 2 years  
   c. 3 years

4. What committee determines the process and development of the Distinguished Member Award?  
   The Awards Committee

5. Which of the following meets the eligibility requirements for the Council on Certification?  
   a. Previously a State Association President  
   b. Is a committee member of the Formal Education Committee  
   c. Has been a CTR for 5 years  
   d. Has served two consecutive terms as a representative for the Council on Certification

6. Why was the Education Foundation formed?  
   The Foundation allows NCRA to receive and expend funds for educational development and products to benefit NCRA members at lower prices (tax exempt).

7. You work in a hospital. Your colleague, a CTR, has just been fired. You see her destroying registry records. What NCRA committee would you notify?  
   Ethics Committee
8. How long is the term of office for someone elected to the position of Treasurer Junior?
   a. 1 year
   b. 2 years
   c. 3 years
   d. 4 years

9. What year was the Education Foundation granted its 501C3 tax status?
   2004

10. How many hours of practicum experience are required under Route A before taking the CTR examination?
    a. 20 hours
    b. 500 hours
    c. 50 hours
    d. 160 hours
    e. 240 hours
1. The goals and objectives and characteristics of central registries and hospital registries are so similar, they may be considered identical.
   a. True  
   b. False

   a. True  
   b. False

3. Some central registries like the National Cancer Data Base (NCDB) are not population based.
   a. True  
   b. False

4. Specify two substantial funding sources/organizations for population-based central registries.

5. An Advisory Committee to a central registry can provide outreach to the local community and state, and provide helpful support when needed.
   a. True  
   b. False

6. All central registries have similar staffs, despite their objectives, caseload, and catchment area.
   a. True  
   b. False
7. Identify five types of personnel, or staff, found in a central registry.

8. Recent events, including computerization, are lessening the need for security and confidentiality of central registry data.
   a. True
   b. False

9. The abbreviation IRB stands for Internal Revenue Bureau.
   a. True
   b. False

10. It is better for each central registry to use its own coding systems to enhance security and confidentiality.
    a. True
    b. False

11. Name five standard setters for central cancer registries.

12. Which of the following is not a Basic Data Item for central registries?
    a. Patient identification and demographics
    b. Cancer identification
    c. Hospital-specific (admission dates, class, and analytic status) data
    d. Stage and prognostic factors
    e. Optimum patient vitamin doses
    f. Treatment: first course and subsequent
    g. Follow-up
    h. Death
    i. Edit overrides
    j. System administration (case completed, changed)
    k. Patient, hospital, and physician
    l. Narrative text

13. For casefinding purposes, the Reportable List refers to Allowable drug compounds that are approved for treatment.
    a. True
    b. False

14. All cancer patients are seen in hospitals. Nonhospital sources of patients are unlikely.
    a. True
    b. False
15. E-path reporting refers to the capability of computers to find the shortest electronic path through the Internet’s routers and servers, thereby saving money.
   a. True
   b. False

16. Death clearance ensures that all persons with cancer on their death certificate are correctly ascertained by the central registry.
   a. True
   b. False

17. If an abstract is prepared by a hospital-based CTR, no quality control is necessary by the central registry.
   a. True
   b. False

18. The central registry need not be concerned with patients who live within their catchment area but are diagnosed or treated outside their catchment area.
   a. True
   b. False

19. Computers have become an important part of many processes within the central registry.
   a. True
   b. False

20. Name three purposes for central registries to perform record linkages:

21. There are two types of record linkage: _________________ and _________________.

22. The primary quality-control concerns of central registries involve which two straightforward questions?

23. Using the data can provide important quality feedback.
   a. True
   b. False

24. Define the following two terms: active follow-up and passive follow-up.

25. Passive follow-up methods are preferred, but they are more expensive.
   a. True
   b. False
26. In comparing incidence rates between groups, use of age-specific incidence rates controls for difference in the age composition of the groups.
   a. True
   b. False

27. Define the relative survival rate.

28. The central registry is not obligated to use their data in any way.
   a. True
   b. False

29. Well-documented cancer clusters, or hot spots, have been identified in more than 40 states.
   a. True
   b. False

30. Many different types of scientific studies can be performed on the population-based data of central registries.
   a. True
   b. False

31. Name three types of scientific studies that can be based on central registry data.

32. The history of U.S. cancer registration began in the:
   a. 1890s.
   b. 1920s.
   c. 1940s.
   d. 1960s.

33. The SEER Program of the NCI was started in ______.

34. The legislation enabling the NPCR was passed in ______.

35. Cancer is a reportable disease, under state law, in how many states?
1. The goals and objectives and characteristics of central registries and hospital registries are so similar, they may be considered identical.
   a. True
   b. False

   a. True
   b. False

3. Some central registries like the National Cancer Data Base (NCDB) are not population based.
   a. True
   b. False

4. Specify two substantial funding sources/organizations for population-based central registries.
   a. NCI/SEER
   b. CDC/NPCR

5. An Advisory Committee to a central registry can provide outreach to the local community and state, and provide helpful support when needed.
   a. True
   b. False

6. All central registries have similar staffs, despite their objectives, caseload, and catchment area.
   a. True
   b. False

7. Identify five types of personnel, or staff, found in a central registry.
   You may have named any of the following:
   a. Medical or Scientific Director/Epidemiologist
   b. Registry/Project Manager
   c. Office/Accounts Manager
   d. Abstractors (CTR skill staff)
   e. Quality control/Management
   f. Data processing (IT Personnel)
   g. Statistician
   h. Coding/processing
   i. Research analyst
   j. Data entry
   k. Secretarial/clerical
8. Recent events, including computerization, are lessening the need for security and confidentiality of central registry data.
   a. True
   b. False

9. The abbreviation IRB stands for Internal Revenue Bureau.
   a. True
   b. False

10. It is better for each central registry to use its own coding systems to enhance security and confidentiality.
    a. True
    b. False

11. Name five standard setters for central cancer registries. You may have named any of the following:
    a. ACoS/CoC
    b. AJCC
    c. SEER
    d. NPCR
    e. NCRA
    f. NAACCR
    g. WHO

12. Which of the following is not a Basic Data Item for central registries?
    a. Patient identification and demographics
    b. Cancer identification
    c. Hospital-specific (admission dates, class, and analytic status) data
    d. Stage and prognostic factors
    e. Optimum patient vitamin doses
    f. Treatment: first course and subsequent
    g. Follow-up
    h. Death
    i. Edit overrides
    j. System administration (case completed, changed)
    k. Patient, hospital, and physician
    l. Narrative text

13. For casefinding purposes, the Reportable List refers to Allowable drug compounds that are approved for treatment.
    a. True
    b. False
14. All cancer patients are seen in hospitals. Nonhospital sources of patients are unlikely.
   a. True
   b. False

15. E-path reporting refers to the capability of computers to find the shortest electronic path through the Internet’s routers and servers, thereby saving money.
   a. True
   b. False

16. Death clearance ensures that all persons with cancer on their death certificate are correctly ascertained by the central registry.
   a. True
   b. False

17. If an abstract is prepared by a hospital-based CTR, no quality control is necessary by the central registry.
   a. True
   b. False

18. The central registry need not be concerned with patients who live within their catchment area but are diagnosed or treated outside their catchment area.
   a. True
   b. False

19. Computers have become an important part of many processes within the central registry.
   a. True
   b. False

20. Name three purposes for central registries to perform record linkages:
    You may have named any of the following:
    a. casefinding
    b. duplicate detection
    c. passive follow-up
    d. linking patients with other cohorts or risk exposure records

21. There are two types of record linkage: deterministic and probabilistic.

22. The primary quality-control concerns of central registries involve which two straightforward questions?
    a. How complete is case ascertainment?
    b. How complete and accurate are the data that are collected?
23. Using the data can provide important quality feedback.
   a. True
   b. False

24. Define the following two terms: active follow-up and passive follow-up.
   Active follow-up refers to someone initiating direct contact with patients. From a central registry perspective, active follow-up may also include contacts made by hospital registrars with physician’s offices.
   Passive follow-up refers to methods that do not require registry contact with hospitals, physicians, or individual cancer patients. These methods usually involve computerized searches of existing nonregistry files that may contain the cancer patient’s name, and follow-up status can be inferred.

25. Passive follow-up methods are preferred, but they are more expensive.
   a. True
   b. False

26. In comparing incidence rates between groups, use of age-specific incidence rates controls for difference in the age composition of the groups.
   a. True
   b. False

27. Define the relative survival rate.
   The relative survival rate is the ratio of the observed survival rate in the study population to the expected survival rate in the subset of the general population with the same characteristics as the study population. That is, the relative survival rate is the observed survival rate, adjusted because some of the subjects can be expected to die of causes of death other than that under study.

28. The central registry is not obligated to use their data in any way.
   a. True
   b. False

29. Well-documented cancer clusters, or hot spots, have been identified in more than 40 states.
   a. True
   b. False

30. Many different types of scientific studies can be performed on the population-based data of central registries.
   a. True
   b. False
31. Name three types of scientific studies that can be based on central registry data.
   You may have named any of the following:
   a. cancer mapping
   b. GIS
   c. ecologic or correlation
   d. case–control
   e. cohort
   f. genetic
   g. patterns of care
   h. survival surveillance
   i. cancer control

32. The history of U.S. cancer registration began in the:
   a. 1890s.
   b. 1920s.
   c. 1940s.
   d. 1960s.

33. The SEER Program of the NCI was started in 1973.

34. The legislation enabling the NPCR was passed in 1992.

35. Cancer is a reportable disease, under state law, in how many states?
   50, all states
1. A geographic information system stores information about how spatial objects (points, lines, and areas) are related to one another. This is known as:
   a. object topology.
   b. object topography.
   c. object tomography.
   d. object telemetry.

2. Match each geographic feature (i–iii) with how it would appear on a typical statewide map (a–c), along with its alternative GIS term (1–3).
   (i) county (a) point (1) arc
   (ii) river (b) area (2) node
   (iii) hospital (c) line (3) polygon

3. Information from different tables is combined through spatial queries.
   a. True
   b. False

4. If a map of an area is unusually distorted or rotated, it probably means an improper __________ was chosen.

5. GIS use in central cancer registries has been on the __________ in recent years.
   a. increase
   b. decrease
6. The map shown (Incidence Rates for Arizona, 2001-2005) is an example of which of the following? (more than one answer is correct)

   Incidence Rates for Arizona, 2001 - 2005
   All Cancer Sites
   All Races (includes Hispanic), Female, All Ages
   Image courtesy of the CDC

   a. Choropleth
   b. Locational
   c. Quantile
   d. Equal interval
   e. Isopleth
   f. Thematic

7. Which of the following is the best color scheme for presenting quantitative data, arranged high to low?
   a. Dark blue → dark green → light green
   b. Light green → dark green → dark blue
   c. Dark red → red → pink
   d. Pink → red → dark red

8. Which of the following should a cancer rate map NOT be used for?
   a. To communicate complex ideas concisely
   b. To assess patterns and trends over an area
   c. To establish causal relations between cancer and risk factors
   d. To generate hypotheses about cancer risk factors

9. What is the open source language for managing and displaying geographic data on the Internet?

10. The process of assigning geographic information to a cancer patient record based on the place of usual residence is known as __________________.
11. If a person living near an industrial facility develops cancer, the facility is the most likely cause.
   a. True
   b. False

12. Which record represents a possible match to the address 12 Maple Street, Baltimore, MD 21206?
   a. 112 Maple Street, Baltimore, MD 21206
   b. 12 Maple Street, Baltimore, MD 21207
   c. 12 Maple Avenue, Baltimore, MD 21206
   d. All of the above
   e. None of the above

13. Which tends to have better geocoding quality: urban or rural addresses?

14. A form of data analysis that incorporates information about the geographic location of events is known as ________________.

15. If red shading on a map corresponds to above-average rates, and most of a state’s area is red, this means that the state as a whole has above-average rates.
   a. True
   b. False

16. A geographic area of unusually high or low occurrences of cancer is known as a ________________.

17. If a county is found to be part of an elevated cancer cluster, this means that every part of the county has unusually high rates.
   a. True
   b. False

18. A map in which rates are averaged across multiple geographic areas to reduce noise is known as a ________________ map.

19. Flexible aggregation refers to the ability to:
   a. reduce noise in a map.
   b. combine cases into any geographic unit for analysis.
   c. identify areas of unusually high or low cancer risk.
   d. assign latitude and longitude coordinates to patient addresses.

20. Many kinds of geographic analysis can be accomplished using free software and Web-based tools.
   a. True
   b. False
1. A geographic information system stores information about how spatial objects (points, lines, and areas) are related to one another. This is known as:
   a. object topology.
   b. object topography.
   c. object tomography.
   d. object telemetry.

2. Match each geographic feature (i–iii) with how it would appear on a typical statewide map (a–c), along with its alternative GIS term (1–3).
   (i) county  (a) point  (1) arc
   (ii) river   (b) area   (2) node
   (iii) hospital (c) line   (3) polygon
   i – b – 3
   ii – c – 1
   iii – a – 2

3. Information from different tables is combined through spatial queries.
   a. True
   b. False

4. If a map of an area is unusually distorted or rotated, it probably means an improper projection was chosen.

5. GIS use in central cancer registries has been on the ___________________ in recent years.
   a. increase
   b. decrease
6. The map shown (Incidence Rates for Arizona, 2001–2005) is an example of which of the following? (more than one answer is correct)

- a. Choropleth
- b. Locational
- c. Quantile
- d. Equal interval
- e. Isopleth
- f. Thematic

7. Which of the following is the best color scheme for presenting quantitative data, arranged high to low?

- a. Dark blue → dark green → light green
- b. Light green → dark green → dark blue
- c. Dark red → red → pink
- d. Pink → red → dark red

8. Which of the following should a cancer rate map NOT be used for?

- a. To communicate complex ideas concisely
- b. To assess patterns and trends over an area
- c. To establish causal relations between cancer and risk factors
- d. To generate hypotheses about cancer risk factors

9. What is the open source language for managing and displaying geographic data on the Internet?

KML

10. The process of assigning geographic information to a cancer patient record based on the place of usual residence is known as **geocoding**.
11. If a person living near an industrial facility develops cancer, the facility is the most likely cause.
   a. True
   b. False

12. Which record represents a possible match to the address 12 Maple Street, Baltimore, MD 21206?
   a. 112 Maple Street, Baltimore, MD 21206
   b. 12 Maple Street, Baltimore, MD 21207
   c. 12 Maple Avenue, Baltimore, MD 21206
   d. All of the above
   e. None of the above

13. Which tends to have better geocoding quality: urban or rural addresses?
   Urban

14. A form of data analysis that incorporates information about the geographic location of events is known as spatial analysis.

15. If red shading on a map corresponds to above-average rates, and most of a state’s area is red, this means that the state as a whole has above-average rates.
   a. True
   b. False

16. A geographic area of unusually high or low occurrences of cancer is known as a cluster.

17. If a county is found to be part of an elevated cancer cluster, this means that every part of the county has unusually high rates.
   a. True
   b. False

18. A map in which rates are averaged across multiple geographic areas to reduce noise is known as a smoothed map.

19. Flexible aggregation refers to the ability to:
   a. reduce noise in a map.
   b. combine cases into any geographic unit for analysis.
   c. identify areas of unusually high or low cancer risk.
   d. assign latitude and longitude coordinates to patient addresses.

20. Many kinds of geographic analysis can be accomplished using free software and Web-based tools.
   a. True
   b. False
National Cancer Data Base

study questions

1. The National Cancer Data Base (NCDB) provides the means for all of the following except:
   a. comparative analysis to examine patterns of care.
   b. active monitoring of cancer care in the United States.
   c. important information to those interested in the care of cancer patients.
   d. population-based statistics.

2. The activities of the NCDB are funded by:
   a. ACoS and CoC.
   b. ACS and WHO.
   c. ACS and ACoS.
   d. CoC and NAACCR.

3. The NCDB was established in:
   a. 1913.
   b. 1922.
   d. 1989.

4. The NCDB captures what percentage of all newly diagnosed malignant cancer cases in the United States annually?
   a. 60%
   b. 70%
   c. 80%
   d. 90%
5. The NCDB contains information on almost _____ million cases of reported cancer diagnoses for the period 1985 through 2007.
   a. 10
   b. 15
   c. 20
   d. 25

6. List the six categories of information that the collected data in the NCDB include.

7. The NCDB contains data submitted by:
   a. cancer programs accredited by the CoC.
   b. state central cancer registries.
   c. all facilities that diagnose or treat cancer.
   d. hospital-based cancer registries only.

8. The central advisory panel that guides and assists in the prioritization of the work conducted by the NCDB staff is the:
   a. Committee on Accreditation.
   b. Committee on Cancer Liaison.
   c. Quality Integration Committee.

9. List the three parts of the NCDB data cycle.

10. The NCDB requires that as many as 5 specified years of data be submitted during the annual Call for Data to facilitate obtaining the most recent data available, as well as ______________ and ______________ data for previously reported patients.

11. Data submission to the NCDB is a requirement specified in which standard of the CoC’s Cancer Programs Standards?

12. The primary method of evaluating the quality of data during submission to the NCDB is the use of:
   a. reabstracting audits.
   b. visual review.
   c. special reports and studies.
   d. edits.

13. Which of the following types of cases that failed an edit would not be written to the NCDB data warehouse? Check all that apply.
   a. Cases with a data quality score of zero
   b. Cases that accumulate a data quality score between 1 and 199
   c. Cases that accumulate a data quality score of 200 or greater
   d. Cases that received “rejection edits”
14. CoC-accredited cancer programs are required to resolve which of the following types of cases that failed an edit? Check all that apply.
   a. Cases with a data quality score of zero
   b. Cases that accumulate a data quality score between 1 and 199
   c. Cases that accumulate a data quality score of 200 or greater
   d. Cases that received “rejection edits”

15. The NCDB uses ________________ to identify duplicate cases.
   a. the patient’s name
   b. the patient’s Social Security number
   c. the patient’s primary site and histology
   d. a contextual code based on specific data item code values from the record

16. The NCDB does not contain information that can be used to identify:
   a. the patient’s name.
   b. the reporting facility.
   c. the case abstractor.
   d. all of the above.

17. For reporting and analysis of data, the NCDB organizes much of its data by:
   a. disease site.
   b. histology.
   c. AJCC stage of disease.

18. Name three reports and publications based on NCDB data.

19. The application that allows the public and hospitals to design customized reports based on selected data items is called:
   a. benchmark reports.
   b. NCDB Survival Reports.
   c. CP³R.

20. The application that allows CoC-accredited cancer programs to compare patterns of care and assess their own trends of care for breast and colorectal cancers is called:
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   b. 15
   c. 20
   d. 25

6. List the six categories of information that the collected data in the NCDB include.
   a. Patient characteristics
   b. Tumor staging
   c. Histology characteristics
   d. Type of first-course treatment administered
   e. Disease recurrence
   f. Survival information
7. The NCDB contains data submitted by:
   a. cancer programs accredited by the CoC.
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   c. all facilities that diagnose or treat cancer.
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9. List the three parts of the NCDB data cycle.
   a. Annual Call for Data
   b. Data processing that includes edit checks and writing case records to the CoC’s data warehouse
   c. Data analysis and evaluation

10. The NCDB requires that as many as 5 specified years of data be submitted during the annual Call for Data to facilitate obtaining the most recent data available, as well as follow-up recurrence and survival data for previously reported patients.

11. Data submission to the NCDB is a requirement specified in which standard of the CoC’s Cancer Programs Standards?
    Standard 3.6

12. The primary method of evaluating the quality of data during submission to the NCDB is the use of:
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   c. AJCC stage of disease.

18. Name three reports and publications based on NCDB data.
    You may have named any of the following:
    a. Public benchmark reports
    b. Hospital Comparison Benchmark Reports
    c. NCDB Survival Reports
    d. Cancer Program Practice Profile Reports (CP3R)

19. The application that allows the public and hospitals to design customized reports based on selected data items is called:
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    b. NCDB Survival Reports.
    c. CP3R.

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    a. benchmark reports.
    b. NCDB Survival Reports.
    c. CP3R.
1. The acronym ACTUR stands for:
   a. Automated Central Tumor Registry.
   b. Actual Registry.
   c. Automated Cancer and Tumor Registry.
   d. Actual Tumor Reporting System.

2. What is the median age of the veteran population?
   a. 18–35 for men and 26–38 for women
   b. 18–35 for both men and women
   c. 61 for men and 47 for women

3. Only active duty military patients are accessioned into the ACTUR database.
   a. True
   b. False

4. The Department of Defense (DoD) includes information on patients’ participation in military campaigns and exposure to toxic agents for _______________ and _______________ purposes.

5. ACTUR differs from its civilian counterparts in the type of data that is required to be collected. Name five of these different data items.

6. Approximately what percentage of the U.S. population is eligible for benefits from the VA?
   a. 24%
   b. 33%
   c. 41%
   d. None of the above
7. Only veterans are eligible for benefits from the VA.
   a. True
   b. False

8. What is the current mission of the VACCR?
   a. Collect data for reporting to state central cancer registries
   b. Collect data from all VA medical centers diagnosing and/or treating veterans with
      cancer, aggregate the data, and make it available for a variety of uses
   c. Aggregate data for the federal government
   d. The mission is undefined.

9. Unlike the civilian sector, ________________ is/are the first source of contact for follow-up
   information.
   a. the physician
   b. the patient
   c. the military sponsor
   d. other healthcare facilities

10. The DoD beneficiary pool age 65 and older is expected to ________________ in future
    years.
    a. increase
    b. decrease
    c. remain the same

11. Which of the following is NOT a use of the data collected by the VA?
    a. Internal reviews
    b. Transfer to the Department of Defense
    c. Resource allocation
    d. Meeting unmet patient needs

12. Which of the following responses describes an accurate depiction of the difference be-
    tween DoD cancer registries and the civilian sector.
    a. The civilian sector submits its data to a central registry, whereas DoD registries do not.
    b. Only the civilian sector adheres to guidelines established by ACoS, CoC, SEER, NAACCR,
       and NPCR.
    c. DoD registries maintain a patient convenience file; civilian registries, for the most part,
       do not.
    d. Only civilian registries change patient status based on clinical documentation.
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   b. 18–35 for both men and women
   c. 61 for men and 47 for women

3. Only active duty military patients are accessioned into the ACTUR database.
   a. True
   b. False

4. The Department of Defense (DoD) includes information on patients' participation in military campaigns and exposure to toxic agents for historical and epidemiologic purposes.

5. ACTUR differs from its civilian counterparts in the type of data that is required to be collected. Name five of these different data items.
   The Department of Defense requires that ACTUR data sets are military specific and include documentation of the sponsor's (military participant) (1) Social Security number, (2) branch of service, (3) active duty status, (4) participation in military campaigns, and (5) exposure to toxic agents.

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    d. Only civilian registries change patient status based on clinical documentation.
1. Which of the following is not an example of a Cooperative Oncology Group?
   a. Southwest Oncology Group (SWOG)
   b. Cancer and Leukemia Group B (CALGB)
   c. Cancer Therapy Evaluation Program (CTEP)
   d. National Surgical Adjuvant Breast and Bowel Project (NSAPB)

2. Through what decision was the National Cancer Institute (NCI) charged with the responsibility of conducting basic scientific research in oncology and applying the results to clinical practice?
   a. National Cancer Act of 1971
   b. National Cancer Institute Act of 1937
   c. Belmont Act of 1978
   d. Nuremberg Code of 1947

3. Who are eligible to participate in Phase I clinical trials?
   a. Cancer patients who reside in rural areas and do not have access to large treatment centers
   b. Prison inmates, the mentally handicapped, the poor and minority groups
   c. Patients who are selected by the institutional review board (IRB)
   d. People with cancer who are eligible for Phase I clinical trials have no known effective treatment options or they have already tried other treatment options

4. What phase of clinical trials focuses on learning how a new treatment compares with standard, or the most widely accepted, treatment?
   a. Phase I
   b. Phase II
   c. Phase III
   d. Phase IV
5. What is the main function of an institutional review board (IRB)?
   a. To determine which arm of a clinical trial a patient should be placed
   b. To protect the rights of human subjects participating in research
   c. To interview potential candidates for clinical research trials
   d. To gain additional information about the drug being tested

6. Who is responsible to the clinical trials group for conducting research?
   a. The clinical trials research nurse (CTRN)
   b. The principal investigator (PI)
   c. The intergroup (IG)
   d. The institutional review board (IRB)

7. Which of the following is true about informed consent document?
   a. The informed consent document contains specific, required information about the clinical trial and is a legal document.
   b. The informed consent document is a patient’s authorization to participate in a clinical trial.
   c. The informed consent document must be reviewed and approved by each center’s institutional review board (IRB).
   d. All of the above.

8. Clinical trials are the first step in the research process of moving scientific research from the laboratory to treatments for people.
   a. True
   b. False

9. The National Cancer Act of 1971 promoted the development of oncology training programs, facilities, and public education services.
   a. True
   b. False

10. The Belmont Report, published in 1978, mandated the establishment of institutional review boards (IRBs), outlined protocol design criteria, and required that written informed consent be provided to all research subjects.
    a. True
    b. False
11. In Phase III trials, the dose is usually increased group by group to find the highest dose that does not cause unacceptable harmful side effects, called toxicity.
   a. True
   b. False

12. In what phase of clinical trial is the safety of a new agent tested against a specific type of cancer using the dosage determined in the Phase I clinical trial?
   a. Phase I
   b. Phase II
   c. Phase III
   d. Phase IV

13. Placebos are always used in cancer treatment trials.
   a. True
   b. False

14. Phase IV trials are used to further evaluate the long-term safety and effectiveness of a treatment.
   a. True
   b. False

15. Randomization is a method used to present bias in research.
   a. True
   b. False

16. Many community hospitals across the country participate in clinical trials as part of which NCI Program?
   a. American College of Surgeons Oncology Group (ACOSOG)
   b. Cancer and Leukemia Group B (CALGB)
   c. National Surgical Adjuvant Breast and Bowel Project (NSABP)
   d. Community Clinical Oncology Program (CCOP)

17. Diagnostic trials focus on new tests or procedures to determine whether people have cancer.
   a. True
   b. False
18. It is important for clinical trial investigators to report their findings to the medical and research communities to advance longer survival periods and enhance quality patient care.
   a. True
   b. False

19. The Nuremberg Code of 1947 serves as the foundation for ethical principles governing clinical research today.
   a. True
   b. False

20. The protocol, or plan for the study, does what?
   a. It explains the purpose of the trial.
   b. It explains how the trial will be conducted.
   c. It explains why each part of the trial is necessary.
   d. All of the above
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    b. It explains how the trial will be conducted.  
    c. It explains why each part of the trial is necessary.  
    d. All of the above
study questions

1. What was the first organization to produce Cancer Incidence in Five Continents (CI5)?

2. Are IACR and IARC the same organization?

3. What two organizations took over production of CI5 with the third volume?

4. What are some advantages to research in comparing cancer rates across countries?

5. Where was the first known cancer registry?

6. Where was the first cancer registry in the U.S.?

7. When and where was the meeting that jump-started the expansion of international data collection on cancer rates?

8. What organization compiles the National Cancer Data Base and heads the Approvals Program for hospitals in the United States?

9. What organization compiles data for Cancer in North America?

10. What countries currently belong to the MECC?
11. The European Network of Cancer Registries (ENCR) was established in 1989 to improve the quality, comparability, and availability of cancer incidence data, and develop a basis for monitoring cancer rates in the ________________.

12. Two large international studies focused on cancer survival are ________________ and ________________.

13. ________________ presents incidence, prevalence, and mortality estimates from 27 cancers for all countries in the world.
1. What was the first organization to produce *Cancer Incidence in Five Continents (CI5)*?
   UICC

2. Are IACR and IARC the same organization?
   No, IACR is the International Association of Cancer Registries, which is an association of cancer registries from around the world, and IARC is the International Agency for Research on Cancer, which is a WHO agency whose mission is cancer research for cancer prevention.

3. What two organizations took over production of CI5 with the third volume?
   a. IARC
   b. IACR

4. What are some advantages to research in comparing cancer rates across countries?
   Among other possible answers, you may have named any of the following:
   a. Understanding cancer causes
   b. Dissemination of cancer control and treatment
   c. Comparison of risk factors

5. Where was the first known cancer registry?
   Hamburg

6. Where was the first cancer registry in the U.S.?
   Connecticut

7. When and where was the meeting that jump-started the expansion of international data collection on cancer rates?
   1946 in Copenhagen

8. What organization compiles the National Cancer Data Base and heads the Approvals Program for hospitals in the United States?
   Commission on Cancer of the American College of Surgeons

9. What organization compiles data for *Cancer in North America*?
   NAACCR
10. What countries currently belong to the MECC?
   a. Israel
   b. Egypt
   c. Turkey
   d. Cyprus
   e. Jordan
   f. The Palestinian Authority

11. The European Network of Cancer Registries (ENCR) was established in 1989 to improve the quality, comparability, and availability of cancer incidence data, and develop a basis for monitoring cancer rates in the European Union.

12. Two large international studies focused on cancer survival are EUROCARE and CONCORD.

13. GLOBOCAN presents incidence, prevalence, and mortality estimates from 27 cancers for all countries in the world.
1. Match the items in the column to the categories below.
   A. Patient’s last name
   B. Date of first registry case
   C. Confidentiality statement
   D. ICD-9 Manual
      _____ Case definition
      _____ Policy manual
      _____ Data item list
      _____ Coding standard

2. Registries play a useful but noncritical role in health data collection.
   a. True
   b. False

3. A registry of Hurricane Katrina survivors could aid in identifying mental health problems consequent to living through the disaster and its aftermath.
   a. True
   b. False
4. Match the registries in the column with main supporting agencies below. There may be more than one type of registry for each supporting agency.
   A. Early Rheumatoid Arthritis Treatment Evaluation Registry
   B. National Exposure Registry
   C. Alzheimer’s Disease Registry
   D. United States Eye Injury Registry
   E. Environmental Polymorphism Registry
   F. Lupus Registry
   G. Special Needs Emergency Registry
   H. Temporomandibular Joint Replacement Registry
   I. Cystic Fibrosis Registry
   J. Lamotrigine Pregnancy Registry
   _____ Federal government
   _____ State government
   _____ Academic center
   _____ Not-for-Profit organization
   _____ Commercial enterprise

5. Potential benefits of a diabetes registry include:
   a. automated notification of clinic visits.
   b. automated identification of uncontrolled blood sugar values.
   c. analysis of treatment regimen outcomes.
   d. none of the above.
   e. all of the above.

6. Registries are designed to collect every bit of available information about patients included in their databases.
   a. True
   b. False

7. Which is not a current trend in registry software development?
   a. Writing programs to perform specific registry functions
   b. Writing programs that facilitate transmission of data between registries
   c. Writing programs that open registry databases to general public inquiries
   d. Writing programs that link registry data with case management functions
8. Match the registries in the column with its purpose below.
   A. AFIP DNA registry
   B. Nun Study
   C. National Marrow Donor Program
   D. Trauma Registry
   E. Advance Directive Registry
   ______ Making living wills accessible
   ______ Finding transplant matches
   ______ Identifying combat casualties
   ______ Tracking course of Alzheimer’s disease
   ______ Preventing accidents

9. Registries support public health surveillance by ____________________________________________________________

10. Registries support the pharmaceutical industry by ____________________________________________________________

11. Registries support hospital facilities by ____________________________________________________________

12. Data standards are nice but not required for efficient registry operations.
   a. True
   b. False

13. Match the registries in the column with purpose below.
   A. Tremolite Asbestos Registry
   B. Birth Defects Registry
   C. Intestinal Transplant Registry
   D. Breast Health Registry
   E. GIST Registry
   ______ Measure efficacy of treatment drugs
   ______ Monitor surgical procedure
   ______ Provide information about services
   ______ Analyze environmental exposure effects
   ______ Integrate treatment management
14. Registry software just replaces paper-based ways of collecting and storing data.
   a. True
   b. False

15. Case definition includes:
   a. a list of collected data items.
   b. follow-up policy.
   c. identification of population covered.
   d. security control provisions.

16. Quality control encompasses:
   a. data definitions.
   b. personnel training.
   c. data edits.
   d. data submission tracking.
   e. none of the above.
   f. all of the above.

17. Organizations contribute to registry infrastructure by ____________________________
    ____________________________________________________________________________.

18. Individuals contribute to registry infrastructure by ____________________________
    ____________________________________________________________________________.

19. Software companies contribute to registry infrastructure by ______________________
    ____________________________________________________________________________.

20. Registry purpose determines registry design.
   a. True
   b. False
1. Match the items in the column to the categories below.
   A. Patient’s last name
   B. Date of first registry case
   C. Confidentiality statement
   D. ICD-9 Manual
   - B Case definition
   - C Policy manual
   - A Data item list
   - D Coding standard

2. Registries play a useful but noncritical role in health data collection.
   a. True
   b. False

3. A registry of Hurricane Katrina survivors could aid in identifying mental health problems consequent to living through the disaster and its aftermath.
   a. True
   b. False

4. Match the registries in the column with main supporting agencies below. There may be more than one type of registry for each supporting agency.
   A. Early Rheumatoid Arthritis Treatment Evaluation Registry
   B. National Exposure Registry
   C. Alzheimer’s Disease Registry
   D. United States Eye Injury Registry
   E. Environmental Polymorphism Registry
   F. Lupus Registry
   G. Special Needs Emergency Registry
   H. Temporomandibular Joint Replacement Registry
   I. Cystic Fibrosis Registry
   J. Lamotrigine Pregnancy Registry
   - B, F Federal government
   - C, G State government
   - A, E, H Academic center
   - D, I Not-for-Profit organization
   - J Commercial enterprise
5. Potential benefits of a diabetes registry include:
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   b. automated identification of uncontrolled blood sugar values.
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   d. none of the above.
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   E. Advance Directive Registry

   E  Making living wills accessible
   C  Finding transplant matches
   A  Identifying combat casualties
   B  Tracking course of Alzheimer’s disease
   D  Preventing accidents

9. Registries support public health surveillance by providing disease-specific incidence information and survival data, and by revealing trends in severity, treatment, and delivery of services over times and geographic areas.

10. Registries support the pharmaceutical industry by tracking complications and outcomes for patients taking specified drugs.

11. Registries support hospital facilities by supporting quality improvement activities through monitoring of therapies and outcomes.
12. Data standards are nice but not required for efficient registry operations.
   a. True
   b. False

13. Match the registries in the column with purpose below.
   A. Tremolite Asbestos Registry
   B. Birth Defects Registry
   C. Intestinal Transplant Registry
   D. Breast Health Registry
   E. GIST Registry
   
   E  Measure efficacy of treatment drugs
   C  Monitor surgical procedure
   B  Provide information about services
   A  Analyze environmental exposure effects
   D  Integrate treatment management

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16. Quality control encompasses:
   a. data definitions.
   b. personnel training.
   c. data edits.
   d. data submission tracking.
   e. none of the above.
   f. all of the above.

17. Organizations contribute to registry infrastructure by supporting and funding registries, defining and monitoring data standards, collecting, reporting, and transmitting data.
18. Individuals contribute to registry infrastructure by gathering and entering data into registry databases.

19. Software companies contribute to registry infrastructure by designing and providing electronic programs through which registry data are collected and transmitted.

20. Registry purpose determines registry design.
   a. True
   b. False