

National Health Education Standards  
Developing an “Exit Competencies” Assessment Instrument

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**Abstract:** **Purpose:** To develop an evaluation instrument that assessed health literacy competencies, specific to the national health education standards, that would provide less variability in response interpretation and greater speed of scoring than available in existing instruments. **Methodology:** Content was developed by professional practitioners with specific topical expertise and/or modified from existing instructional materials, compiled, and evaluated, via blind review, for alignment with the broad national standards and their specific performance indicators. **Results:** The resulting health literacy “exit” competency assessment inventory comprised a 60 item questionnaire that addressed 11 topical areas that focused on documentable adolescent and young adult health needs. **Conclusions:** Internal blind reviews indicated that all performance areas of the Joint Commission Report were addressed with the instrument’s primary, though non-exclusive, assessment focus on lower taxonomic objectives. **Recommendations:** Though preliminary work suggests the inventory may be an effective assessment tool, a comprehensive statistical analysis of the validity and reliability of this instrument needs to be undertaken to define its merit. (**Additional data:** 3 tables, 24 references)

**Key Words:** health literacy, national standards, evaluation

**Introduction:** Lifestyle related morbidity and mortality, chronology of disease etiology, and escalating health care costs support the continuing need for comprehensive school-based health education (Finn, 2000; Sweeney and Rose, 1998; American Public Health Association, 1995; Summerfield, 1995; Kolbe, 1993; Healthy People 2000, 1992). A framework for addressing these needs has been provided by the Joint Commission Report on Health Education Standards (American Association for Health Education, 1995) which suggests both broad standards and individual performance indicators for enhancing and refining health education curricular content and improving student health literacy. While this framework retains a strong cognitive component, it also acknowledges the desirability of developing and refining attributes such as critical thinking, creative problem-solving, and effective communication skills essential to the acquisition, interpretation and application of health information and services (American Association for Health Education, 1995). Numerous state educational agencies have utilized these national standards as a foundation for curricular development (Missouri State Department of Elementary and Secondary Education, 2002; Pennsylvania Department of Education, 2001; Rhode Island State Department of Education, 1999), and assess student performance outcomes via standardized instruments whose item inventory frequently includes a combination of selected response (multiple choice), constructed response (fill in the blank) and/or performance (short essay) inquiries (Missouri State Department of Elementary and Secondary Education, 2002; Rhode Island State Department of Education, 1999). While consistency and uniformity of student response assessment are addressed via utilization of grading rubrics (Missouri State Department of Elementary and Secondary Education, 2002; Rhode Island State Department of Education, 1999), evaluation of constructed and performance answers is labor intensive and potentially affected by variations in response interpretation. This initiative attempted to develop an evaluation instrument that assessed health literacy competencies, as defined by the Joint Commission Report on Health Education Standards, that would reflect performance expectations and capabilities upon exiting the secondary experience, and could be more objectively and rapidly scored.

**Methodology:** The developmental process for this health literacy assessment instrument began with the solicitation of input from practicing, secondary and tertiary level health and physical education professionals. Acquired from locally constituted focus groups and regional practitioner, oral surveys, responses identified several desirable evaluation instrument elements. These included in random order:

1. Content should focus on documentable and prevalent health needs;
2. Content should address both the broad national standards and specific performance indicators identified by the Joint Commission Report on Health Education Standards (American Association for Health Education, 1995);
3. Format should address critical analysis and application capabilities as well as content knowledge;
4. Time frame for completion of instrument should be no more than 60 minutes; and
5. Instrument should be machine scoreable.

With these broad suggestions serving as foundational guidelines, the process of instrument development began with the identification of content areas within the broad recommendations of the Joint Commission Report (American Association for Health Education, 1995) and specific health needs identified via morbidity and mortality data. These latter data support the contention that most significant health problems in the United States are caused by behaviors such as physical inactivity, smoking, alcohol and other drug use, high risk sexual practices, poor nutrition, and behavior that lead to injuries (Summerfield, 1995). Consequently they should be and are frequently the primary focus of instructional initiatives (American School Health Association, 1994). Acknowledging these content priorities, this instrument focused on these general topical areas as the nucleus of health literacy exit competencies. Selection of the selected response (multiple choice) format may seem counter to the growing popularity of performance-based evaluation tools but the desire for large volume, machine scoring capabilities that minimize interpretation variability dictated the exclusive use of the selected response (multiple choice) style (Haladyna, 1994). However, selected response items, in this instrument, were based on scenarios that required, not only the demonstration of content knowledge, but also the ability to think critically and apply foundational health information to a unique situation. This latter component is based on established learning methodologies designed to develop higher order learning skills such as critical thinking, creative problem-solving, technology literacy, and quantitative analysis requisite in the application of knowledge (Garman, 1999; Brandon and Majumdar, 1997; Farmer, 1994, 1988). Additionally, the use of topic specific situations is becoming increasingly a part of health knowledge assessment (Missouri State Department of Elementary and Secondary Education, 2002; Insel, Roth, Rollins, and Petersen, 2000; Rhode Island State Department of Education, 1999) confirming the importance of critical thinking, problem-solving and other knowledge application skills (Farmer, 1994, 1988; Ritcliff, 1994). Individual questions, in this instrument, were developed by professional practitioners with specific topical expertise and/or modified from existing instructional materials (Garman, Hayduk, Posey, Teske and Crider, 2002; Insel, Roth, Rollins, and Petersen, 2000), compiled, and evaluated for alignment with the broad national standards and their specific performance indicators. The alignment process involved multiple, blind reviews of material with items being retained for inclusion in the instrument if the majority of reviewers felt a question was topically relevant and addressed a specific performance indicator.

**Results and Discussion:** The resulting health literacy “exit” competency assessment inventory comprised a 60 item questionnaire that addressed 11 topical areas (Table 1). These broad content areas included substance use, physical fitness, nutrition and weight management, stress management, sexual/reproductive health, cardiovascular and cancer disease prevention, personal safety, consumer issues and health advocacy. While there are numerous other content areas that

could be included in health education curricula, the aforementioned appear to be consistently promoted and/or addressed in existing assessment instruments (Missouri State Department of Elementary and Secondary Education, 2002; Hayduk and Garman, 2002; Summerfield, 1995; American School Health Association, 1994) and focused on documentable health needs (Summerfield, 1995). Accordingly they became the primary content focus of the evaluation instrument. Equally important as content was the comprehensiveness with which inventory items addressed both the broad standards and specific performance indicators identified in the National Health Education Standards (American Association for Health Education, 1995). Data (Table 2 and 3) indicate all standards and subsumed performance indicators are addressed by the instrument with “knowledge” and “strategy implementation” arenas receiving the most frequent question focus. The assessment’s emphasis on knowledge, and basic application arises from the practical need to address under prepared or erroneously informed students (Garman, 1993) and theoretical needs acknowledging the necessity for both a broad and accurate cognitive base upon which more complex taxonomic skills can be developed (Kreitzer and Madaus, 1994; Krathwohl, Bloom, and Masia, 1956).

A statistical analysis of the validity and reliability of this instrument is in the process of being completed and is an acknowledged shortcoming of this developmental effort. However, by presenting this material, the authors hope to encourage others to evaluate its merit. If those professional efforts validate this work, perhaps this material will lend itself to arenas where assessment, specific to the needs and processes defined in the Joint Commission Report on Health Education, is desirable, where participant volume is high, multiple evaluators are required for scoring and “turn-around” time is truncated.

**Conclusion:** This investigation attempted to develop a health literacy assessment instrument specific to the national health education standards and subsumed performance indicators identified in the Joint Commission Report on Health Education Standards. This effort resulted in a currently unvalidated instrument which could be more objectively and rapidly scored than existing “standardized” materials. Internal blind reviews indicated that all performance areas of the Joint Commission Report were addressed with the instrument’s primary, though non-exclusive, assessment focus on lower taxonomic objectives.

Table 1

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NATIONAL HEALTH EDUCATION STANDARDS  
ASSESSMENT INSTRUMENT<sup>1</sup>

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**SELECT THE BEST ANSWER**

**Answer questions 1 - 6 based on the following situation and your health knowledge.**

**Situation:** Maria has become very busy since she graduated from high school and started college. She is a full-time student at a large northeastern university, earns above average grades, and is very active in campus clubs and organizations. Her classes and campus activities leave her little time to socialize with her friends. While she managed to balance academics with social interests in high school, she is beginning to feel out of control. She feels as if is letting her friends down because she has had to cancel several activities that they had planned, and she feels guilty because she isn't able to meet all her other obligations. Since the beginning of the semester, she has gained twelve pounds, and, to her dismay, has started to smoke again after two years without cigarettes. Returning to that habit especially after struggling so hard to previously stop really has her upset. She blames it on the influence of her roommate, a smoker, whose parents own a large, successful southern tobacco farm and who is very vocal about "freedom of choice" and "smokers only hurting themselves." Maria has always thought that she was in control of her life and has managed well up until now. She really wants to spend more time with her friends without giving up her other activities and get back to her "old self."

1. If Maria succeeds in improving her areas of concern, she will most likely see a corresponding improvement in her \_\_\_\_\_ health.
  - a. spiritual and intellectual
  - b. social and emotional
  - c. emotional and physical
  - d. intellectual and physical
  
2. Maria's first step in changing her behaviors that prevent her from spending time with her friends should be to:
  - a. review her daily and weekly schedules
  - b. consider the other changes she should make in her life
  - c. develop two or three possible strategies for change
  - d. figure out how to reward herself
  
3. What are some of the potential short-term "health" implications of Maria's situation?
  - a. increasing weight, no change in "guilt" feelings and normalized stress
  - b. declining fitness capacity, increasing stress levels and decreasing classroom performance
  - c. increasing feelings of "guilt," increasing social isolation, and stabilized substance use
  - d. increasing substance use, academic performance problems and decreasing stress
  
4. If Maria wanted to explore her roommate's argument about "smokers only hurting themselves," where might she look for accurate, unbiased information?
  - a. industry "trade" journals available in and through college libraries and internet sites addressing substance use and dependence
  - b. professional journals with national reputations and websites from research institutions in tobacco producing states
  - c. websites such as those from the Centers for Disease Control and the National Institute for Health and "ethics" articles that present both sides of the debate
  - d. popular magazines that report on the dangers of "second hand" smoke and provide "tips" for stopping

5. What elements of Maria's past suggest she may be capable of behavioral change?
  - a. prior success and recognition of potential health impact of current situation
  - b. minimal, negative current issues but a desire for change in present situation.
  - c. gender, youth and desire for change.
  - d. can't determine from available information
  
6. If Maria chooses to try to get back to her "old self," how might she get support from her roommate?
  - a. explain her desire to adjust her unhealthy behaviors and insist her roommate stop smoking
  - b. continually provide her roommate with web site addresses and magazine articles that prove that weight gain and smoking is harmful
  - c. share her interest in changing behaviors and ask her roommate how she might help make it easier
  - d. reduce the amount of time spent with her roommate and seek friends who practice the habits Maria is trying to reinforce

**Answer questions 7 - 10 based on the following situation and your health knowledge.**

**Situation:** Abbey and Joe are almost twenty and have been engaged for two years. Both live in their own apartments and on tight budgets. They have abstained from sexual intercourse, choosing to wait until they are married. Both want to have children, but they agree that they will wait for 2 or 3 years. A recent discussion focused on the type of contraception that will be best for them. Abby has an allergy to latex, a history of urinary tract infections, and menstrual irregularities. They are also concerned with potential budget issues as they move from being single to newly weds.

7. What considerations should the two discuss prior to making a decision on contraception?
  - a. effectiveness, cost, safety, and impact on frequency of sexual activity
  - b. side effects, effectiveness, ease of use and peer choices
  - c. reversibility, cost, health risk, and convenience
  - d. partner's preference, reliability, accessibility, and safety
  
8. What community resources are available to assist Abbey and Joe in their contraceptive selection decision?
  - a. family physician, internet access at a community library, and family planning agencies
  - b. neighborhood drug store and churches and synagogues
  - c. pharmacists, personal physicians and friends
  - d. high school teachers and coaches
  
9. If Abbey obtains information from the "web," she might evaluate its quality by assessing the nature of the material to determine if the writing is "informational" or "advertisement." Which of the following should not be considered when evaluating the value of "web" information?
  - a. "popularity" of people giving testimonials about the product
  - b. "identity and reputation" of the provider
  - c. determine whether the "owner" of the web site will make money by promoting the information
  - d. scientific accuracy of the information
  
10. Under the current circumstances, which contraceptive method is best for Abbey and Joe to use?
 

a. Depo-Provera	b. male condom
c. diaphragm	d. Norplant

**Answer questions 11 -16 based on the following situation and your health knowledge.**

**Situation:** Molly is 18 years old, a cigarette smoker, sexually active and has had more than one sexual partner. She protects herself from pregnancy by taking the pill and from sexually transmitted diseases (STDs) by requiring that her partner wear a condom unless the sexual activity is limited to oral sex. Molly has never had any signs or symptoms of an STD. She has been with her current partner for almost a year, and lately he has been pressuring her to have

intercourse without a condom saying that it will “make them closer and take their relationship to a new level.” She has been resisting which only makes him mad.

11. Which one of the following statements, about Molly’s risk for STD infection, is true?
  - a. Molly is at high risk for infection of genital warts and pelvic inflammatory disease.
  - b. Molly is at high risk for HIV and hepatitis B infection.
  - c. Molly is at high risk for infection from genital herpes and toxic shock syndrome.
  - d. Molly is at high risk for chlamydia infection and hepatitis A.
  
12. What action can Molly take to further reduce her risk of STD infections?
  - a. use generous amounts of spermicidal creams or jellies in addition to condoms
  - b. in addition to condoms, use a diaphragm with a spermicide
  - c. wash thoroughly after intercourse
  - d. have regular, periodic screenings
  
13. If Molly were to acquire an STD infection,
  - a. she would know immediately because of the symptoms.
  - b. she would need to tell only her last sex partner about the infection.
  - c. a course of antibiotics would cover any STD she would be most likely to contract.
  - d. she should avoid all sexual activity until treatment is complete.
  
14. As Molly made decisions about the type of “protection” she would use, she needed to consider the “reputation” and quality of the information source, safety and STD protection capabilities, and which of the following?
  - a. how many of her friends use a similar product
  - b. product durability
  - c. what her partner likes
  - d. cost and ease of use of the product
  
15. How should Molly deal with her partner’s recent pressure?
  - a. ignore it, and if he persists break up with him
  - b. talk to him about her concerns and try to find “common ground”
  - c. discuss other ways to address his “demands”
  - d. give in to avoid his anger
  
16. Molly is using the pill as a method of controlling her fertility. What symptoms might indicate that she is “at risk” with continued use?
  - a. nausea, falling blood pressure, and weight gain
  - b. headaches, dizziness, and leg pain
  - c. vision problems, elevated blood pressure, and weight loss
  - d. abdominal pain, weight gain, and hearing loss

**Answer questions 17 - 23 based on the following situation and your health knowledge.**

**Situation:** Luis, a freshman at Knighton College, is majoring in criminal justice hoping for a career in law enforcement. In high school, both he and his teammate, Nevin, played defensive tackle on their team successfully enough to receive athletic scholarships from the college. However, a recurring ankle tendon injury forced Luis to give up football. That was a difficult decision, and prior to making it, he tried everything to continue playing: visits to the trainer and team physician and long, hard rehabilitation. When that proved unsuccessful, he even started “doctoring” himself. All to no avail. Now, after three months of minimal activity, he finally feels healed, but knows he’s turned into a “couch potato.” Though he recognizes his playing days are over, he wants to get back into shape.

17. What would be a good beginning workout schedule for Luis to follow if his goal was to improve his cardiovascular endurance?

- a. bicycle 2 times per week for a maximum duration of 15 minutes per session
- b. 3 - 4 days of full court basketball, followed by 3 - 4 days of rest
- c. brisk walking or slow jogging for a minimum of 20 minutes every other day
- d. 30 to 60 minutes of weight training every day

18. As a result of his injury, Luis found that he was eating more “junk” food, having difficulty concentrating on school work, and arguing more with his girlfriend. This suggests a linkage between:

- a. physical and environmental health
- b. mental and physical health
- c. social, emotional and physical health
- d. spiritual and mental health

19. As Luis attempted to treat his own injury, where could he look for accurate, unbiased information?

- a. strength and fitness magazines sold at the college bookstore
- b. web sites from nationally recognized medical centers
- c. anatomy and physiology textbooks from the library
- d. pamphlets picked up from the local drug store

20. If Luis begins to develop symptoms of another tendon injury, what would it be best for him to do?

- a. see his doctor immediately
- b. reduce or stop his activity to determine if the injury improves; if not, see a doctor
- c. rest, ice, and elevate his leg but keep on working out
- d. use “hot rub” to loosen up the tendon

21. If he decides to see a doctor again, where might he go to get the best help for the least cost?

- a. hospital emergency room
- b. bone and joint specialist
- c. physical therapist working in a hospital practice
- d. a “general practice” medical doctor

22. A death in Nevin’s family has made him think about some of his lifestyle choices, and he decides to improve his health. He is, however, pledging a fraternity and has very little free time. To get the greatest health benefits with the least time commitment, Nevin would be wise to concentrate on improving his:

- a. power and agility
- b. flexibility and balance
- c. muscular strength
- d. cardiovascular endurance

23. As Luis and Nevin continue their involvement with physical activity, the most important variable linking their activity to good health is:

- a. activity selection
- b. length of exercise sessions
- c. intensity of effort
- d. regularity of participation

**Answer questions 24 - 29 based on the following situation and your health knowledge.**

**Situation:** Carol and Dina both gained the infamous “freshman fifteen” - a weight gain of about fifteen pounds since they started new jobs and attending classes at the local community college. They blame this on late night snacking on soda, pizza and potato chips. These behaviors were influenced by their workload and the stress resulting from Carol’s mother’s recent diagnosis of diabetes, and Dina’s dad suffering a heart attack at age 47. Experiencing first hand the potential negative effects of excessive body fat on their future health, not to mention its impact on their clothing budget,



they are determined to change their eating habits and loose weight. The following represents two sample menus from Carol's and Dina's new eating plan.

**A**

**B**

Breakfast:

1 bagel with cream cheese  
1 cup cappuccino

2 poached eggs  
2 pieces of white toast with margarine  
1 cup orange drink

Lunch:

1 grilled cheese sandwich  
1 tossed salad  
(iceberg lettuce, tomatoes, cucumbers)  
1 serving french fries  
1 glass iced tea

1 lean hamburger on roll  
(lite mayo, lettuce, tomato)  
2 mozzarella sticks  
1 cup lemonade

Dinner:

2 cups pasta  
(shrimp, garlic, margarine)  
2 slices garlic bread  
1 tossed salad  
(iceberg lettuce, tomatoes, cucumbers)  
1 can diet soda

2 skinless chicken breasts  
1 baked potato with sour cream  
1 cup applesauce  
1 can diet soda

Snacks:

1 cup pretzels  
1 can diet soda

12 Saltine crackers  
1 can diet soda

24. Which of these menus best matches the recommendations of the Food Guide Pyramid?

- a. sample menu A because it is low in fat and high in protein
- b. sample menu B because it is low in carbohydrates
- c. both because they each menu provides a variety of nutrient dense foods
- d. neither because both menus are high in fat and low in fiber

25. As Dina and Carol attempted to eat according to the recommendations of the food pyramid, their initial thoughts were, "There is no way I can eat that much and not gain weight!" This perception results from misunderstanding the concept of

- a. food quality
- b. food portion
- c. food selection
- d. food cost

26. Over time, both women experienced declining body weight as a result of following this new eating pattern and a decision to also begin an exercise program so they could "turn fat into muscle." They averaged a 1-2 pound drop in weight per week. Was this rate of loss healthy?

- a. yes
- b. no
- c. can't determine because we don't know how many calories they eat daily
- d. can't determine because we don't know what exercises they are doing

27. To be continually successful with weight loss, these two women would be well advised to:
- continue their nutritional focus by eliminate all fat from their diet
  - balance their increased energy usage by taking vitamin and mineral supplements
  - choose nutrient dense foods by eliminating all animal products from their diets
  - focus on moderating the fat and sugar content of their diet while increasing activity
28. If Carol and Dina are unsuccessful in losing body fat and end up gaining more, what short term health consequences could result?
- excessive fatigue and low blood pressure
  - elevated blood pressure and cholesterol
  - high blood sugar and energy levels
  - high cholesterol and low fatigue levels
29. Considering the nature of the parents' illness, which of the following would not be a prudent "health management strategy" for the two students?
- successful weight management and healthy food choices
  - exercise regularly and don't worry about getting cholesterol checked
  - discussion with family doctor about potential diabetes and heart attack risk
  - intermittent blood tests to check cholesterol and sugar levels

**Answer questions 30 - 36 based on the following situation and your health knowledge.**

**Situation:** Mike is a senior in high school. The group he runs with has easy access to liquor and beer and, at most parties, its readily available. In fact, several teenage driving under the influence (DUI) accidents and traffic deaths have made it a major school and community concern. For the past 5 months, Mike has been spending most weekends, beginning Friday nights, playing poker. The games go on all night and he usually drinks 8 to 10 beers and smokes heavily while he plays. He sometimes uses "speed" to stay awake during the all-night poker games. He then pops other pills so that he can sleep during the day and be ready for the next night's game. Mike's friends are worried that he is hooked on drugs and alcohol and cannot control his gambling. Mike claims that he does not have any problems. He admits that he hides his gambling from his parents who supply his allowance. He does not hide his gambling from others and does not gamble more than he can afford to pay. Mike boasts he can drink more beer now than when he was a freshman without having a hangover the next day. He dismisses the risks associated with mixing alcohol with other drugs stating that only people who don't know what they are doing have problems. In fact, even though school and community education programs and zero tolerance law enforcement by the local police have reduced alcohol usage among teens in his community, Mike brags about his drinking and ability to avoid getting arrested. Lately, he has increasing trouble making his Monday morning classes and his grades have dropped this significantly.

30. Would you consider Mike a binge drinker?
- yes
  - no
  - depends on the speed with which he drinks
  - can't determine from available information
31. If Mike's alcohol usage continues, what are some potential short-term consequences?
- liver damage
  - academic and legal trouble
  - sustained memory loss
  - increasing gambling debt
32. Continued substance use potentially could yield all of the following long-term effects except?
- medical crisis resulting from drug interaction
  - alcohol dependency
  - fatigue
  - liver damage

33. Which of the following have not been influenced or resulted from public opinion about drug and alcohol usage in Mike's community?

- a. elimination of a school curriculum on drugs and alcohol
- b. alcohol related traffic accidents
- c. zero tolerance law enforcement for under age drinking
- d. deaths associated with alcohol consumption

34. Have public efforts and government regulations had an effect on the community's problem?

- a. yes
- b. no
- c. maybe
- d. can't determine from available information

35. Which of Mike's current habits provides the strongest suggestion that he needs professional help?

- a. falling grades
- b. hiding his gambling from his parents
- c. increasing alcohol tolerance
- d. use of both alcohol and other drugs

36. If Mike wanted to talk to someone about his growing substance use, all of the following community resources might provide help except?

- a. family physician and school counselors
- b. alcoholics anonymous or similar groups
- c. churches, synagogues or mosques
- d. friends engaging in similar behaviors

**Answer questions 37 - 40 based on the following situation and your health knowledge.**

**Situation:** "What a night!" thought Denise as she walked down the darkened street. She finally went out with Robbie, and it was a disaster. They had a great time at the movie, but when they went to get a pizza, it all fell apart. How was she to know that her old boyfriend would be at the same restaurant? He came over and started mouthing off – made some remarks about her "reputation" and started touching her - trying hard to pick a fight. Rob held off as best he could but finally nailed the guy. They went at it pretty good. Even had some friends join in. What a mess! Now both of them were bruised and arrested, and she was faced with walking home alone late at night.

37. When initially confronted in the restaurant, what could Denise or Robbie have done to reduce the potential for trouble?

- a. ignore the comments
- b. make fun of the boyfriend
- c. insist that he leave their table
- d. respond aggressively to make him "back off"

38. As things got more tense, what could Denise or Robbie have done to reduce the potential for trouble?

- a. ask for the manager
- b. speak loudly to draw attention to the situation
- c. be unresponsive to the boyfriend's comments and actions
- d. have someone call the police

39. As Denise walks home alone, what would be the most practical suggestion for reducing her risk for becoming a victim of violence?

- a. walk away from the buildings and on well lighted streets
- b. talk loudly to herself
- c. take the shortest route home
- d. join up with someone else on the street

40. What might be the underlying cause of this incident?

- a. old boyfriend's jealousy
- b. poor communication between Denise and Robbie
- c. Denise's low self-esteem
- d. Robbie's desire to show-off

**Answer questions 41 - 44 based on the following situation and your health knowledge.**

**Situation:** Sydney, a junior in high school, has just been diagnosed with cancer. Her doctor told her she has an excellent chance of being cured but must undergo chemotherapy and radiation treatments. Though her family and friends have been supportive, she feels overwhelmed with the decisions that she must consider regarding her treatment. Sydney used to laugh and smile and share her great sense of humor. Now she rarely smiles or laughs, complains that she can't sleep, and says that she can't think clearly. Her thoughts are increasingly disorganized.

41. The changes in Sydney's mood and thought processes results from

- a. her body's ongoing response to stress
- b. cancer's effect on her nervous system
- c. family pressures relating to treatment
- d. current levels of medication

42. What action could Sydney first take to help alleviate some of the stress effects that she is experiencing?

- a. share her fears with a friend
- b. see a psychiatrist
- c. give her physician unlimited authority to make decisions about her treatment
- d. ask her physician to prescribe anti-anxiety medication

43. If her initial efforts at stress management aren't successful, all of the following approaches might help except?

- a. progressive relaxation
- b. extended use of over-the-counter sleeping pills
- c. yoga or tai chi
- d. breathing exercises

44. If Sydney is unsuccessful dealing with the stress this situation produces, what could be the most problematic of some potential health consequences?

- a. a greater reduction in her immune response
- b. loss of friends
- c. difficulty in school
- d. weight loss

**Answer questions 45 - 50 based on the following situation and your health knowledge.**

**Situation:** Tony's dad is 56 years old and considers himself to be in good health, but he has a family history of heart disease, stroke and diabetes. He recently had a routine physical exam and was told that his blood pressure was 142/85 mm Hg, his total cholesterol was 210 mg/dl (LDL was 175 mg/dl and HDL was 35 mg/dl), and his blood sugar levels

were normal. He was informed that his blood pressure was slightly elevated and his weight of 190 pounds made him about 10 pounds overweight.

45. The doctor conducting the exam expressed some concerns about the results of the physical. What finding is the key source of his concern?

- a. cholesterol levels
- b. blood pressure
- c. weight
- d. age

46. What is the nature of the doctors concern?

- a. risk for heart valve problems
- b. risk for obesity
- c. risk for diabetes
- d. risk for coronary heart disease

47. The physician will likely suggest that Tony's dad make all of the following lifestyle changes except:

- a. increase soluble fiber intake
- b. maintain current sugar intake
- c. increase physical activity
- d. decrease saturated fat intake

48. Tony's mother has decided to alter some of the family's dinner menus to try to eat in a healthier manner. Where might she go to get the best nutritional information for a "heart healthy" diet?

- a. local office of the American Heart Association
- b. cookbook section of any book store
- c. family doctor's office
- d. checkout lane in the grocery store

49. Most adults in Tony's town come from German, Italian or Latino ancestry, seem overweight, and a lot die from heart attacks. When he has supper at his girlfriend's or teammates' houses, he is encouraged and expected to eat large meals frequently of "starchy" foods. Seem as if that's always the way its been. This "style of eating" might be:

- a. an environmental contributor to poor health
- b. a "cultural" reason for overweightness
- c. the major cause of heart attacks in his community
- d. based on a need for lots of calories

50. Last night, after supper, Tony's dad complained of feeling light-headed, experienced mild, short duration pain in his neck and left arm, and sweated heavily. He should have:

- a. ignored it, for it was only indigestion
- b. gone to the hospital immediately
- c. waited a few hours to see if the discomfort passed
- d. taken a pill to reduce stomach gas and heartburn

**Answer questions 51 - 58 based on the following situation and your health knowledge.**

**Situation:** Naturally blond and fair skinned, Liz has experienced her share of sunburns as she worked on her tan. After all when you lived your whole life in southern Florida, being outside in the sun was a big part of the social scene. Not wanting to be left out, she frequently joined her friends at the beach. Regardless how much she tried to avoid it, she always managed to end up getting too much sun. This last summer was particularly bad, for even with a SPF #30 sunscreen, she developed a blister on her back. That killed the beach and, until it healed, she felt like a social outcast.

51. Repeated exposure to the sun significantly increases your risk for all of the following except?
- vision problems
  - premature aging of the skin
  - skin cancer
  - early hair loss
52. Repeated sunburns are more problematic than a one time overexposure because:
- ultraviolet radiation never goes away
  - “sun damage” is cumulative
  - skin becomes scarred with repeated “burns”
  - sun screens intensify ultraviolet radiation
53. When Liz tried to share her concerns about getting too much sun, her friends weren’t willing to listen. In fact, they laughed at her saying everyone got sunburned - no big deal! How might Liz address this situation?
- vigorously express her opinions to anyone who might listen
  - try to convince the group that they all need sun screen or they will get skin cancer
  - insist her friends plan social activities that don’t involve the beach
  - tell her friends that she needs to limit the amount of time she is in the sun, her health is important and trust that they will respect her position and decision
54. Many of the “tanning” opinions of Liz’s friends were based on their impressions of good health as seen on individuals in the movies and magazines. This suggests that
- the media is a good source of body image/appearance information
  - if it’s promoted in the press or on the screen, it must be all right
  - the tanned appearance of fashion models will, if copied, make you popular
  - media can influence decisions about health practices
55. Which of the following strategies might be best if Liz wants to reduce her potential for skin cancer while still continuing her trips to the beach with her friends?
- join her friends only before 10 am or after 4 pm
  - wear a long sleeved t-shirt, a wide brimmed hat and use a sun block with an SPF of at least 45
  - insist her friends only use beaches that have some shade
  - be responsible for planning all outings so she can control location
56. Because of her repeated sunburns, Liz takes time to periodically examine her skin. She pays close attention to her moles. What are some changes in her skin moles that indicate a trip to the doctor is necessary.
- border irregularity, shrinkage and color variation
  - size, color variation and irregular appearance
  - unchanging appearance, shrinkage and border irregularity
  - size, border irregularity and speed of healing
57. Liz’s parents are members of an HMO (health maintenance organization), and she is covered under their medical benefits. If she wants to see a doctor about a changing mole, who would she probably need to call for an initial appointment.
- a skin specialist
  - a cancer specialist
  - her family doctor
  - the local hospital’s emergency room
58. What is the primary, if any, environmental influence contributing to Liz’s potential for developing skin cancer?
- geographic location
  - outdoor social activities
  - frequency of “beach” visitations
  - strength of sun screen used

**Answer questions 59 - 60 based on the following situation and your health knowledge.**

**Situation:** To complete a volunteer service requirement for her school, Jennie helps at a local retirement community. She lends a hand with a variety of activities: wrapping birthday packages, holiday decorating, and letter writing, to name a few, but what she does most frequently is assist residents on trips to the grocery store. Not only does this give her an opportunity to meet a varied selection of the residents, but it also gives her a chance, as a result of meetings with the food service department's registered dietician, to expand her own knowledge of sound nutritional choices and products. Tentative at first, Jennie, until recently, felt comfortable assisting the elderly in "stretching their dollars" without compromising the quality of their meals. Lately, however, she feels caught between the instructions of the dietician to encourage low salt food purchases and the desires of some residents to eat what they please.

59. How might Jennie resolve this dilemma?
- because of the age of the residents, allow them to eat what they want
  - insist of following the dieticians instructions even if it angers the residents
  - try to encourage without insisting and suggest residents try some low salt products
  - try to satisfy both interests without letting the other side know what is happening
60. Jennie's approaches to encouraging low salt food choices could successfully include all of the following except?
- talk about the excitement of exploring new foods
  - share label information on sodium content of varying food products
  - try to identify lower salt foods in the shopper's "food history"
  - select products without consulting the shopper

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Notes:

- Elements modified from Insel, et al. (2002). Core concepts in health instructor's resource guide. New York: McGraw-Hill.

Table 2

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NATIONAL HEALTH EDUCATION STANDARDS  
“STANDARDS” QUESTION FREQUENCY

Standard	Focus <sup>1</sup>	Question Frequency <sup>2</sup>
1. Students will comprehend concepts related to health promotion and disease prevention.	Knowledge foundation	25
2. Students will demonstrate the ability to access valid health information and health-promoting products and services.	Information acquisition	9
3. Students will demonstrate the ability to practice health-enhancing behaviors and reduce health risks.	Strategy implementation	11
4. Students will analyze the influence of culture, media, technology, and other factors on health.	Influencing factors	3
5. Students will demonstrate the ability to use interpersonal communication skills to enhance health.	Communication skills	5
6. Students will demonstrate the ability to use goal-setting and decision-making skills to enhance health.	Planning and processing	4
7. Students will demonstrate the ability to advocate for personal, family, and community health.	Advocacy	3

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## Notes:

1. Authors' interpretation of standards' primary foci.
2. Multiple applications not considered.



Table 3

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NATIONAL HEALTH EDUCATION STANDARDS  
“PERFORMANCE INDICATOR” QUESTION EXAMPLES

Performance Indicator Grades 9 - 11	Representative Question <sup>1</sup>
1-1 Analyze how behavior can impact health maintenance and disease prevention.	51
1-2 Describe the interrelationships of mental, emotional, social and physical health throughout adulthood.	1
1-3 Explain the impact of personal health behaviors on the functioning of body systems.	52
1-4 Analyze how family, peers and community influence the health of individuals.	49
1-5 Analyze how the environment influences the health of the community.	58
1-6 Describe how to delay onset and reduce risks of potential health problems during adulthood.	47
1-7 Analyze how public health policies and government regulations influence health promotion and disease prevention.	33
1-8 Analyze how the prevention and control of health problems are influenced by research and medical advances.	10
2-1 Evaluate the validity of health information, products, and services.	9
2-2 Demonstrate the ability to evaluate resources from home, school, and community that provide valid health information.	4
2-3 Evaluate factors that influence personal selection of health products and services.	7

Table 3

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NATIONAL HEALTH EDUCATION STANDARDS  
 “PERFORMANCE INDICATOR” QUESTION EXAMPLES  
 (continued)

Performance Indicator Grades 9 - 11	Representative Question <sup>1</sup>
2-4 Demonstrate the ability to access school and community health services for self and others.	8
2-5 Analyze the cost and accessibility of health care services.	21
2-6 Analyze situations requiring professional health services.	50
3-1 Analyze the role of individual responsibility for enhancing health.	13
3-2 Evaluate a personal health assessment to determine strategies for health enhancement and risk reduction.	55
3-3 Analyze the short-term and long-term consequences of safe, risky and harmful behaviors.	11
3-4 Develop strategies to improve or maintain personal, family and community health.	29
3-5 Develop injury prevention and management strategies for personal, family and community health.	39
3-6 Demonstrate ways to avoid and reduce threatening situations.	39
3-7 Evaluate strategies to manage stress.	42
4-1 Analyze how cultural diversity enriches and challenges health behaviors.	49

Table 3

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NATIONAL HEALTH EDUCATION STANDARDS  
 “PERFORMANCE INDICATOR” QUESTION EXAMPLES  
 (continued)

Performance Indicator Grades 9 - 11	Representative Question <sup>1</sup>
4-2 Evaluate the effects of media and other factors on personal, family, and community health.	54
4-3 Evaluate the impact of technology on personal, family, and community health.	9
4-4 Analyze how information from the community influences health.	34
5-1 Demonstrate skills for communicating effectively with family, peers, and others.	6
5-2 Analyze how interpersonal communication affects relationships.	37
5-3 Demonstrate healthy ways to express needs, wants, and feelings.	53
5-4 Demonstrate ways to communicate care, consideration, and respect of self and others.	15
5-5 Demonstrate strategies for solving interpersonal conflicts without harming self or others.	37
5-6 Demonstrate refusal, negotiation, and collaboration skills to avoid potentially harmful situations.	38
5-7 Analyze the possible causes of conflict in schools, families, and communities.	40
5-8 Demonstrate strategies used to prevent conflict.	38

Table 3

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NATIONAL HEALTH EDUCATION STANDARDS  
 “PERFORMANCE INDICATOR” QUESTION EXAMPLES  
 (continued)

Performance Indicator Grades 9 - 11	Representative Question <sup>1</sup>
6-1 Demonstrate the ability to utilize various strategies when making decisions related to health needs and risks of young adults.	29
6-2 Analyze health concerns that require collaborative decision making.	7
6-3 Predict immediate and long term impact of health decisions on the individual, family, and community.	7
6-4 Implement a plan for attaining a personal health goal.	27
6-5 Evaluate progress toward achieving personal health goals.	26
6-6 Formulate an effective plan for lifelong health.	23
7-1 Evaluate the effectiveness of communication methods for accurately expressing health information and ideas.	60
7-2 Express information and opinions about health issues.	60
7-3 Utilize strategies to overcome barriers when communicating information, ideas, feelings and opinions about health issues.	59
7-4 Demonstrate the ability to influence and support others in making positive health choices.	59

Table 3

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NATIONAL HEALTH EDUCATION STANDARDS  
“PERFORMANCE INDICATOR” QUESTION EXAMPLES  
(continued)

Performance Indicator Grades 9 - 11	Representative Question <sup>1</sup>
7-5 Demonstrate the ability to work cooperatively when advocating for healthy communities.	59
7-6 Demonstrate the ability to adapt health messages and communication techniques to the characteristics of a particular audience.	60

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Notes:

1. Questions do not reflect a comprehensive listing but need to be viewed as one example meeting a specific performance indicator.

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