

## Patient Satisfaction and Quality of Life: Humanistic Outcomes

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*This activity is designed for pharmacists, physicians, physician assistants, nurses, other healthcare team members, payers for health services, and healthcare executives.*

### Goal

To help healthcare professionals understand the evaluation of humanistic outcomes and their value to the pharmacist, the patient, and others.

### Objectives

1. Identify the present era of healthcare and the role of outcomes measurement.
2. Differentiate the three areas of evaluation of the quality of healthcare according to the Donabedian Theory.
3. Discuss the complexity of healthcare quality evaluation as it relates to patient satisfaction and quality of life issues.
4. Analyze the present functioning level in the three areas of evaluation of the quality of healthcare as it relates to humanistic outcomes.
5. Evaluate the constructs and applicability of the Economic, Clinical, Humanistic Outcomes Model, including suggested modifications.
6. Describe interventions having implications for positive humanistic outcomes.

The key to evaluating the quality of healthcare in the present era, the era of assessment and accountability, is outcomes measurement.<sup>1</sup> This evaluation is not devoted entirely to traditional clinical outcomes (eg, blood pressure, blood glucose, etc) in which medical management is scientifically grounded. Rather, other outcomes that include economic and humanistic components have gained attention because of demands from patients, payers, accrediting bodies, healthcare executives, and health-related industry representatives. In conjunction with clinical outcomes, outcomes data in these two areas are now viewed as essential in determining the value of healthcare to individuals, healthcare systems, and society.<sup>2,3</sup>

Humanistic outcomes are the consequences of disease or treatment on the patient's functional status or quality of life.\*<sup>3</sup> The dimensions included in measurement of these outcomes cover physical function, emotional/psychological function, social function, general health and well-being, and life satisfaction. Another dimension to humanistic outcomes is patient satisfaction with healthcare. This article will discuss the humanistic outcomes of patient satisfaction and quality of life, including the complexities and problems these issues raise.

### Outcomes Measurement

Donabedian, a leader in the theory of healthcare assessment, includes outcome, structure, and process as the three components of a conceptual framework for evaluating healthcare delivery. Under this theory, a fundamental functional relationship exists among the three elements such that one follows the other (ie, structure process outcome). Structure includes the financial, human, and physical resources that are needed to provide healthcare. Process is the set of

### CONTINUING EDUCATION CREDIT



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\*Quality of life (QOL) refers to health-related quality of life throughout this article.

activities that occur within and between practitioners and patients. To date, most emphasis has been on the structure and process of healthcare delivery. A shift in focus to outcomes measurement represents a natural progression according to the Donabedian Theory.<sup>4</sup> However, measurement of outcomes, particularly humanistic outcomes, is problematic. Some of the difficulty may be attributed to the following: (1) insufficient financing of physical and human resources, leading to ineffectual structure; (2) lack of consensus on key concepts (such as patient satisfaction and quality of life) and their measurement, limited documentation, and inconsistent use of or disregard for practice guidelines, resulting in inadequate or absent process; (3) attitudes of patients, providers, payers, and healthcare executives; and (4) general lack of acceptance of humanistic outcomes measures by many constituents within the scientific community.

*Ineffectual Structure.* Outcome databases are short-lived in many cases, as they are often funded and established with grant funds for a single research project. Human resources or personnel to establish and maintain these databases are also insufficient due to funding of salaries by "soft" money linked to a one-time research endeavor. To enhance and assure the viability of an outcomes management system from "womb to tomb" for an entire population, a decision to finance the system utilizing patient care revenues or some other stable form of funding is crucial to outcomes measurement.<sup>5</sup>

Instruments to measure patient satisfaction and quality of life are available and are in use. Therefore, the structural component criterion relative to these physical resources is being met or, at least, significant progress is evident. As noted previously, there remains some lack of consensus regarding key concepts in humanistic outcomes and their measurement. These topics appear to be more process oriented and will be elucidated in the section to follow.

### **Inadequate or Absent Process**

*Defining and Measuring Patient Satisfaction.* Pascoe defined patient satisfaction as "a healthcare recipient's reaction to salient aspects of the context, process, and result of their service experience."<sup>6</sup> The increasing emphasis on patient satisfaction evolves from the recognition of patients as consumers in the healthcare marketplace. This change is evinced in such acts as increasing malpractice litigation, switching of medical-care providers and/or health plans by patients, and questioning of physician authority and the efficacy of some expensive medical procedures.<sup>2,5</sup> Patient satisfaction is a pivotal element for the viability

of a healthcare system. This notion has challenged key players in healthcare (ie, providers, payers, and healthcare executives) to acknowledge their prime and common interest is the patient.

Patient satisfaction is a multidimensional concept; therefore, there is lack of agreement on an explicit definition. The lack of explicitness is evidenced in the evolution of the various instruments that have been developed. The widely used Patient Satisfaction Questionnaire (PSQ), for example, measures patient satisfaction with medical care as delivered by the physician. Developed initially in the mid-1970s as an 80-item tool, the PSQ is now a shortened (18 item) version measuring the following dimensions: general satisfaction, technical quality, interpersonal manner, communication, financial aspects, time spent with doctor, and accessibility and convenience.<sup>7</sup>

Patient satisfaction instruments developed to measure this concept relative to pharmaceutical care include instruments such as those developed by MacKeigan and Larson,<sup>8,9</sup> Gourley, and Gourley and Rigolosi (G.A.G, unpublished data).<sup>10,11</sup> The original MacKeigan and Larson instrument was adapted from the PSQ and consisted of 45 items; it has been revised twice and presently contains 29 items. These items consider the following five dimensions for evaluating patient satisfaction with pharmaceutical care: explanation, consideration, technical competence, general, and physical attributes. The 30-item Pharmaceutical Care Satisfaction Questionnaire (G.A.G, unpublished data),<sup>11</sup> is a compilation of items derived from the LaMonica-Oberst Patient Satisfaction Scale,<sup>10</sup> which assessed satisfaction with nursing care, plus additional items more specific to pharmaceutical care. The primary focus is evaluation of pharmaceutical care provided in the ambulatory care setting. This instrument has been used in two multicenter outcomes studies of pharmaceutical care. In the first study, the instrument contained 17 items. It was revised for the second study and currently contains 30 items. All of these instruments face psychometric property issues similar to those encountered by quality of life instruments, which are discussed in the following section.

*Defining and Measuring Quality of Life.* Although recognized as an important humanistic outcome, quality of life, like patient satisfaction, lacks consensus on definition. Schron and Shumaker define quality of life as "a multidimensional concept referring to a person's total well-being, including his or her psychological, social, and physical health status."<sup>12</sup> Even as a definition for quality of life has remained unsettled, questions relevant to measurement of this concept have also been raised. For example:

- Which dimensions should be included? Will increasing the number of dimensions measured make an instrument more capable of detecting clinical differences?<sup>2,13</sup>
- How should the relative importance of the various dimensions measured by the instruments be determined?<sup>2,13</sup>
- Do the dimensions actually measure uncorrelated functions (eg, physical function and psychological/emotional function)? If not, what other data should be collected for grounding these concepts (eg, clinical indicators and affective states)?<sup>14</sup>
- How should the reliability of these instruments measuring the dynamic process of quality of life be determined?<sup>2,13</sup>
- Since there is no gold standard or criterion measure for quality of life, how should validity be measured?<sup>2,13</sup>

Despite these uncertainties, dimensions commonly assessed when measuring quality of life include physical function, emotional/psychological function, social function, general health and well-being, and life satisfaction. Several instruments assessing these dimensions are available and for ease of review can be considered either disease-specific or general. Disease-specific instruments (Table 1) aid in obtaining greater detail relative to particular out-

comes associated with a specific disease or its therapy. The primary disadvantage of disease-specific quality of life tools is that by focusing too specifically on the clinical correlates of a given disease the overall impact may be missed.<sup>2,13,15</sup>

General instruments provide a more holistic overview relative to outcome. Although quality of life is a multidimensional concept, its measurement using general instruments can result in a single outcome score (eg, health index/utility-based) or a variety of scores for individual dimensions (eg, health profile). The advantage of these instruments is comparability across various disease states, medical interventions, or populations. See Table 2 for selected examples of general instruments that include health profiles or utility-based instruments. The widely used SF-36 resulted from the Medical Outcomes Study conducted by the RAND Corporation (Santa Monica, CA).<sup>16</sup> The instrument covers nine dimensions, which are assumed to be uncorrelated (ie, general health perceptions, physical functioning, social functioning, role limitations due to physical problems, role limitations due to emotional problems, general mental health, bodily pain, energy/fatigue, and health transition).<sup>2,13-16</sup> The Health Status Questionnaire 2.0 includes the 36 items from the SF-36 along with three additional items related to depression.<sup>15-17</sup>

The health profile, a general tool, is advantageous as it provides an outcomes score for specific dimensions. This is most useful to the researcher attempting to measure differential effects on quality of life. The advantage of a utility-based instrument (eg, Quality of Well-Being Scale and Health Utilities Index) is that preferences for various health states have been empirically measured. With these tools, the quality of life associated with death and perfect health are represented in scores ranging from 0.0 to 1.0. Empirical measurement makes the utility-based instrument particularly useful in cost-utility analysis in pharmacoeconomic research.<sup>2,13-15</sup>

*Documentation and Practice Guidelines.* In order to identify and measure patient satisfaction and quality of life from “womb to tomb” in a continuum of care, all members of the healthcare team must act in concert. In the present healthcare environment, however, leadership, consensus on key concepts, and usable data for analysis of humanistic outcomes are incomplete or not available. Fragmentation of knowledge is a major deterrent to outcomes analysis. Even with an ideal method for pooling clinical, economic, and humanistic outcomes data, healthcare team members are concerned about inappropriate use of such data in an increasingly litigious society. Thus, ongoing com-

**Table 1.** Examples of Disease-Specific Quality of Life Instruments

<ul style="list-style-type: none"> <li>■ Arthritis Impact Measurement Scale (AIMS)</li> <li>■ Diabetes Quality of Life (DQOL)</li> <li>■ Functional Living Index Cancer (FLIC)</li> <li>■ HIV Overview of Problems-Evaluating Systems (HOPES)</li> </ul>
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**Table 2.** Selected Examples of General Instruments

<p>Health Profiles</p> <ul style="list-style-type: none"> <li>■ Medical Outcomes Short Form - 36 (SF-36)</li> <li>■ Health Status Questionnaire 2.0 (HSQ 2.0)</li> </ul> <p>Utility-Based</p> <ul style="list-style-type: none"> <li>■ Quality of Well-Being Scale (QWB)</li> <li>■ Health Utilities Index (HUI)</li> </ul>
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prehensive documentation of outcomes is still an unmet goal.<sup>5</sup>

Healthcare providers have always included humanistic outcomes data in their practice in a subjective, nonspecific way (eg, asking a patient how he is, phoning a patient to ask why she has not returned for a follow-up visit). However, to strengthen outcomes as well as their measurement and management, a greater reliance and emphasis must be placed on valid evaluation instruments, documentation, and standards/ guidelines for each healthcare practitioner in selecting appropriate interventions with less emphasis on the cost of the intervention (eg, pharmaceutical product or service).<sup>3,5</sup>

In addition to confidence, motivation, problem-solving skills, and the knowledge base to positively impact patient satisfaction and quality of life, today's healthcare provider must have the tools for documentation and guidance in evaluating these outcomes routinely. Such tools should be flexible and able to redirect the decision-making process as the patient's condition (as reflected by the data) changes with progression of the disease state. In addition, the healthcare provider should view humanistic, economic, and clinical outcomes in an integrated rather than unidimensional fashion. Assessing the value of a treatment or intervention should include not only clinical outcomes and costs associated with it, but also its impact on one's ability to live a "normal" life as well as satisfaction with that life. While technology has increased life expectancy, the public is also demanding the quality of that life be given consideration.

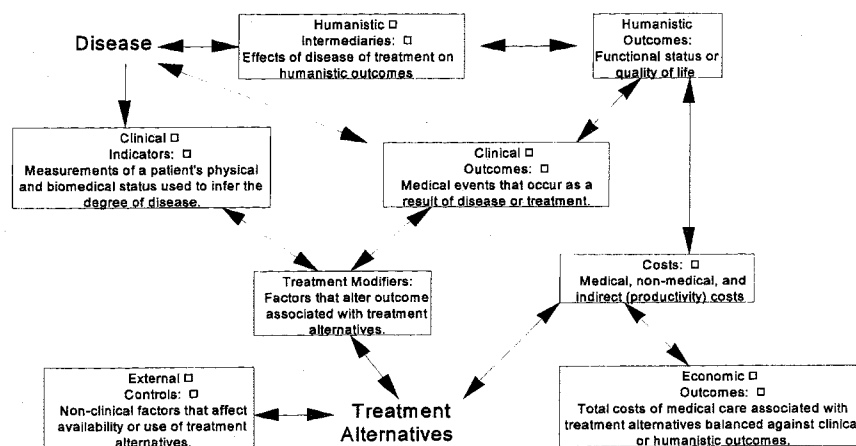
The Economic, Clinical, Humanistic Outcomes Model (ECHO) is a planning model for pharmaco-economic research. It is also a comprehensive tool readily available for following and documenting these outcomes and for use in the therapeutic decision-making process. Its goal is to assist healthcare providers in planning, conducting, and evaluating pharmaceutical products and services from a multidimensional perspective in an effort to enhance patient satisfaction and increase quality of life while reducing healthcare

cost. The model "depicts the value of a pharmaceutical product or service as a combination of traditional clinical-based outcomes with more contemporary measures of economic efficiency and quality."<sup>3</sup> It allows the healthcare provider to map locations of treatment alternatives along economic, clinical, and humanistic dimensions and to define successful treatment alternatives for the patient while optimizing allocation of resources. See Figure 1 for the ECHO model.<sup>3</sup>

Specific objectives of the ECHO model are to:

- Provide a theoretical framework for identifying, collecting, and using outcomes data to assess the value of pharmaceutical treatment alternatives
- Propose causal relationships between disease, health-related outcomes, and the decisions about medical interventions
- Consider potential trade-offs among economic, clinical, and humanistic variables in optimizing the allocation of healthcare resources
- Identify and rank patient populations for treatment alternatives of interest
- Assess the relative value of the competing alternatives
- Provide a mechanism for stimulating discussions between healthcare providers, administrators, and researchers.<sup>3</sup>

**Figure 1.** The Conceptual Model: Economic, Clinical, and Humanistic Outcome (ECHO) Model



From Kozma CM, Reeder CE, Schulz RM. Economic, clinical, and humanistic outcomes: A planning model for pharmaco-economic research *Clin Ther* 1993;15:1121-1132 Reprinted with permission © Excerpta Medica, Inc

According to the developers of the ECHO model, treatment modifiers include factors such as compliance\* with therapy, product-specific characteristics (eg, dosage form and dosing interval), physician prescribing ability, and provider/patient relationship. Some of these factors could be further elaborated for assessment and assistance with selection of the most appropriate intervention(s) or treatment(s). For example, compliance could be expanded to consider such germane components as (1) support system(s) availability; (2) perceived health status, (3) perceived susceptibility and severity of disease sequelae, (4) self-efficacy, (5) locus of control, (6) coping ability, and (7) emotional and physical functioning levels. These plus other psychosocial elements have been shown to affect compliance and, ultimately, outcomes.<sup>3,18-20</sup>

Use of the word provider in the healthcare literature traditionally connotes the physician. The ECHO model narrative does not indicate otherwise when it lists the treatment modifier factor of provider/patient relationship. However, the pharmacist, physician assistant, nurse, or other healthcare providers could also act as treatment modifiers.<sup>3</sup>

The individual healthcare provider can also effectively participate in the model by bridging the link between the healthcare team members. Healthcare providers have the skills and knowledge to educate the patient, payer, and healthcare executives about the value of an intervention (eg, a pharmaceutical product or service) as it relates to humanistic outcomes management.

In the ECHO model, "humanistic intermediaries" are defined as factors (eg, the effects of disease or treatment) that affect individuals' subjective evaluation of their humanistic outcomes. While side effects and patient satisfaction with therapy are the factors mentioned, should the term "humanistic intermediaries" be further elaborated to include the important healthcare professional/patient relationship?

The following steps in the ECHO tracking system assist the healthcare provider in identifying salient variables in assessing the value of a given treatment alternative:

- Specify the disease
- Identify alternatives among pharmaceutical and non-pharmaceutical therapies
- Identify therapeutic differences within a therapeutic class and among therapeutic classes

- Identify important economic, clinical, and humanistic variables
- Rank populations of interest
- Identify the instruments and data sources necessary to complete the study.<sup>3</sup>

The potential advances in outcomes measurement that could be incurred by use of the ECHO model rely heavily upon acceptance and use by healthcare professionals.

### Attitudes of Patients, Providers, Payers, and Healthcare Executives

Attitudes of patients, providers, payers, and healthcare executives stem from such factors as perceived ownership, expectations, the increasing availability of medical information, and the restructuring of the health system. The concept of perceived ownership is readily apparent in the literature published on outcomes to date. It suggests that "economic outcomes have been the domain of payers and insurers, clinical outcomes have been the domain of medical providers, and humanistic outcomes have been of interest to patients and a secondary issue to others."<sup>3</sup>

With the explosion and availability of medical information, technology, and services and the restructuring of the healthcare system, patients, providers, payers, and healthcare executives have higher expectations regarding quality of care. Patients are, however, often rendered powerless in carrying out their personal wishes regarding the plan of care. Messages relative to patient empowerment are incongruent. Healthcare providers and payers expect the patient to assume increasing responsibility for their healthcare in the form of self-care. Yet, the patient education to achieve this goal is often lacking due to time constraints. The actual empowerment of patients is restricted to choice of physician, hospital, or health plans. Although there is increasing availability of medical information, patients often lack the knowledge/understanding or suitable information (ie, from long-lived outcome databases) to make an informed choice that impacts humanistic outcomes. Their selection and evaluation of healthcare is frequently based solely on amenities (ie, physician manner, availability, and accessibility [proximity of home to office or hospital]) or economic constraints.<sup>5</sup>

Patients, according to published reports, are most responsive, satisfied, and eager to talk about psychosocial issues when the physician's task-directed skills, interpersonal skills, empathy, and attentiveness are devoid of a dominant manner.<sup>21,22</sup> However, the reluctance of the healthcare provider to embrace the patient as a member of the healthcare team may

\*The authors would like to suggest substitution of the term adherence for compliance due to its less paternalistic connotation.

be based on the belief that patients lack necessary information to make rational decisions about medical care. The healthcare provider's capacity to make sound medical decisions is further jeopardized by the rapidly changing healthcare environment, increasing complexity of medical practice, expansion of caseloads with increasing numbers of chronically ill patients, paranoia relative to potential litigation, and the reluctance to share decision making.<sup>5</sup>

Payers and executives of healthcare organizations are also frustrated, having to offset tighter budgets against the demands of costly technology and pharmaceuticals. In addition, the structural framework of their own organizations is often deficient (eg, there is inconsistency in practice patterns). They have also traditionally viewed value of outcomes and cost of technology and pharmaceuticals synonymously. Traditionally, concern for personal patient satisfaction has been lacking in the management structure. However, as healthcare costs continue to escalate and resources are limited, payers and healthcare executives are encouraging patients and healthcare providers to select medical care alternatives that maximize positive outcomes with expenditures.<sup>3,5</sup>

### General Lack of Acceptance by the Scientific Community

In many settings, the scientific community demonstrates a general lack of acceptance of humanistic outcomes research. It is regarded as "soft" since it relies heavily upon self-reported subjective measures. This is particularly evident in Institutional Review Boards' reluctance to approve such endeavors. Conversely, Schron and Shumaker<sup>12</sup> purport a reasonable level of acceptance by the research community of quality of life assessment. These

researchers base their assertions on experience with large multisite clinical trials supported by the National Heart, Lung, and Blood Institute.

As more demands are made by patients, providers, and payers for data resulting from such studies and as the scientific rigor of these studies is assured, perhaps, the initial impression of "soft" research will dissipate. More rational medical care-related choices can then be made based on better insight into the effect of these choices on the patient's quality of life.<sup>22</sup> The healthcare provider, as a caregiver and leader in the humanistic movement, can intervene in many positive ways. (Table 3).

### Conclusion

With the reduction in healthcare payments cutting edge healthcare delivery involves a multidisciplinary team approach. Each team member must be willing to spend time with the patient to determine desired

**Table 3.** Interventions with Implications for Positive Humanistic Outcomes

<p>The healthcare provider, as a caregiver and leader in the humanistic outcomes movement, can:</p> <ul style="list-style-type: none"> <li>■ Become educated about the humanistic outcomes movement as it relates to patient satisfaction and quality of life issues</li> <li>■ Assist in empowering the patient to participate as an active member of his or her healthcare team.</li> <li>■ Assist the patient in developing support systems as needed</li> <li>■ Help the patient gain a realistic perspective of susceptibility and severity of disease sequelae.</li> <li>■ Help the patient increase his or her level of self-efficacy relative to the therapeutic plan</li> <li>■ Assist the patient who perceives his or her well-being controlled by external forces (ie, external locus of control) to realize the merit(s) of the therapeutic plan.</li> <li>■ Become sensitive to the desires of the patient before intervening in therapy</li> <li>■ Become proactive by communicating patient's desires to the physician and other healthcare team members (eg, social worker)</li> <li>■ Alert the physician of any potential and perceived conflicts between patient's lifestyle and the therapy prescribed.</li> <li>■ Include patient's hobbies and occupation in the patient profile when they may positively or negatively affect outcomes</li> <li>■ Educate the patient about the possible impact of any negative effects of therapy.</li> <li>■ Encourage the patient to report any untoward side effects of therapy immediately.</li> <li>■ Counsel the patient on how to minimize the impact of negative side effects of therapy</li> <li>■ Suggest pharmacologic or nonpharmacologic alternatives of therapy to the physician when negative effects are reported by the patient</li> <li>■ Assist in reducing the consumption of more expensive medical care.</li> <li>■ Listen carefully for hints of medication-related patient complaints that may go unrecognized by the patient or provider.</li> <li>■ Become a patient advocate by volunteering to speak to local civic groups, senior citizen groups, and by writing articles in newsletters and newspapers about the patient's right for quality of life</li> </ul>
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Adapted from references 2, 19-21, 23,24.

humanistic outcomes since "a satisfied patient is more likely to return for follow-up care, cooperate with the caregiver, and adhere to the prescribed regimen."<sup>24</sup> Dispensing with turf battles and the need for a dominant leader, a multidisciplinary healthcare team—patients, providers, payers, and healthcare executives—should expend energy and effort into abiding by the patient's wishes and balancing humanistic and economic outcomes with direct pathophysiologic observations. The availability of comprehensive databases linking patient care from "womb to tomb" for all healthcare providers could provide a valuable tool for implementing the successful evaluation of humanistic outcomes. To avoid inappropriate use or regimentation of care, such technology will need to be monitored to prevent the potential exploitation by the powerful litigation and healthcare industry fields.<sup>5</sup> Also, health professional curriculums should include these important concepts.

The ECHO model could serve as a theoretical framework to assist patients, healthcare providers, payers, and healthcare executives in weighing variables other than the primary single dimension on which each of these groups have traditionally focused (eg, the economic focus of payers, the clinical focus of healthcare providers, etc). This is possible because this model integrates perspectives that traditionally remained distinct.

"Buying right" is a buzz phrase and goal important in purchasing healthcare in this era. Significant efforts must be initiated to move beyond the noncollaborative, noncomprehensive, conflicting activities of the present healthcare system, or healthcare professionals will not be able to provide the information demanded by patients and payers to meet this goal.

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## CONTINUING PHARMACY EDUCATION

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### Instructions

After reading the article "Patient Satisfaction and Quality of Life: Humanistic Outcomes," select the best answer to each of the following questions.

1. Which of the following describes the present era of healthcare?

- a) the era of expansion
- b) the era of assessment and accountability
- c) the era of restitution
- d) the era of cost containment

2. Components in the Donabedian conceptual framework for healthcare evaluation in the 1990s include the following except:

- a) outcome
- b) planning
- c) structure
- d) process

3. Difficulty in the measurement of outcomes may be attributed to which of the following?

- a) adequate documentation
- b) consistent use of practice guidelines
- c) attitudes of healthcare providers
- d) consensus on key concepts

4. Patient satisfaction evaluation is receiving increasing emphasis due to all the following except:

- a) recognition of patients as consumers in the healthcare marketplace
- b) malpractice litigation
- c) patient reluctance to switch medical-care providers
- d) its relationship to the viability of a healthcare system

5. The Medical Outcomes Short Form-36 (SF-36) and the Quality of Well-Being Scale are examples of what type of quality of life instruments?

- a) disease specific
- b) general
- c) nonsensitive
- d) predictive

6. The various dimensions (eg, physical function, emotional/psychological function, etc) of the SF-36 quality of life instrument are assumed to be:

- a) correlated
- b) uncorrelated
- c) predictive
- d) nonpredictive

7. The success of the healthcare provider in promoting positive humanistic outcomes is dependent on all the following except:

- a) motivation
- b) short-lived databases
- c) confidence
- d) knowledge base

8. According to the Economic, Clinical, Humanistic, Outcomes (ECHO) Model, medical events that occur as a result of disease or treatment are defined as:

- a) clinical indicators
- b) clinical outcomes
- c) treatment modifiers
- d) external controls

(CPE QUESTIONS CONTINUED ON FOLLOWING PAGE)

### Patient Satisfaction and Quality of Life: Humanistic Outcomes

(PLEASE PRINT CLEARLY)

Name \_\_\_\_\_

Home Address \_\_\_\_\_

City \_\_\_\_\_

State/ZIP \_\_\_\_\_

Daytime Phone # \_\_\_\_\_

States in which CE credit is desired: \_\_\_\_\_

Social Security # \_\_\_\_\_

Please circle your answers:

- |            |             |             |             |
|------------|-------------|-------------|-------------|
| 1. a b c d | 6. a b c d  | 11. a b c d | 16. a b c d |
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| 3. a b c d | 8. a b c d  | 13. a b c d | 18. a b c d |
| 4. a b c d | 9. a b c d  | 14. a b c d | 19. a b c d |
| 5. a b c d | 10. a b c d | 15. a b c d | 20. a b c d |

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## ... CPE QUIZ ...

(continued from previous page)

9. **Quality of life is depicted by the ECHO model as a:**
- treatment alternative
  - external control
  - humanistic outcome
  - economic outcome
10. **Objectives of the ECHO model include all the following except:**
- provide framework for assessing therapeutic alternatives
  - identify patient populations for treatment alternatives
  - assess the relative value of competing alternatives
  - provide a mechanism for decreasing the need for discussion of therapeutic alternatives
11. **As a guide for evaluating humanistic outcomes, the ECHO model:**
- does not depict the "value" of pharmaceutical product or service
  - offers trade-offs in optimizing the allocation of health services
  - compares healthcare team members interventions
  - lacks incorporation of economic efficiency and quality
12. **An advantage of the ECHO model is that it:**
- prevents integration of attitudes and beliefs relating to healthcare
  - remains inherently subjective
  - integrates perspectives that traditionally remained distinct
  - maintains traditionally distinct perspectives
13. **In the ECHO model, "Treatment modifier" factors include all the following except:**
- compliance with therapy
  - product-specific characteristics (eg, dosage form)
  - provider/patient relationship
  - cost of pharmaceutical products and services
14. **In working with the person with diabetes, the pharmacist can act as a "treatment modifier" and impact patient satisfaction and quality of life in all the following ways except:**
- counseling the patient about hypoglycemic episodes
  - reducing emergency room visits
  - enhancing patient compliance
  - discussing cost per quality adjusted life-years
15. **Healthcare providers and payers are expecting the patient to assume increasing responsibility for their health-care in the form of self-care. What primary means of achieving this goal is missing?**
- patient education
  - financial incentives
  - comprehensive database
  - third party responsiveness
16. **Patients selection of healthcare is often based on the following factors except:**
- prescription turn-over time
  - availability and accessibility
  - proximity from home
  - physician manner

(CPE QUESTIONS CONTINUED ON FOLLOWING PAGE)

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### CPE PROGRAM EVALUATION

The University of Tennessee College of Pharmacy would like to have your opinion. Please fill out the questionnaire below, tear off along the dotted line, and mail along with your CPE test form. We thank you for your evaluation, which is most helpful.

Please circle your answers:

My pharmacy practice setting is:	Independent	Chain	Hospital	Consultant
The objectives of the lesson were achieved	Yes	No		
The quality of presentation of the material was:	Excellent	Good	Fair	Poor
The information presented will be useful to me in my practice.	Strongly agree	Mildly agree	Mildly disagree	Strongly disagree

How long did it take you to read the material and respond to the Continuing Education questions: (Please specify the number of hours.)

\_\_\_\_\_

Please send this evaluation, along with your answer sheet and \$15 check payable to University of Tennessee, to:

Glen Farr, PharmD  
University of Tennessee College of Pharmacy  
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Knoxville, TN 37902

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**17. Patients are most responsive and satisfied with all the following attributes of their physician except:**

- a) task-directed skills
- b) interpersonal skills
- c) attentiveness to psychosocial issues
- d) therapeutic decision dominance

**18. The physician's capacity to make sound medical decisions is presently jeopardized by:**

- a) decreasing complexity of medical practice
- b) embracing the patient as a healthcare team member
- c) increasing numbers of chronically ill patients
- d) willingness to share decision making

**19. Payers and executives of healthcare organizations in the 1990s are frustrated with:**

- a) balancing finance with demands of costly technology and pharmaceuticals
- b) the consistency of organizational practice patterns
- c) traditional over-zealous concern for a patient's personal satisfaction
- d) minimizing positive outcomes with expenditures

**20. Humanistic outcomes research is viewed by the scientific community as:**

- a) "soft"
- b) objective
- c) predictive
- d) quantitative